Following the initial interval of spinal shock, a quadriplegic who has difficulty with bladder emptying will most likely benefit from an alpha-adrenergic blocking agent when which of the following conditions develops:

A detrusor-sphincter dyssynergia.

B anal sphincter hyperreflexia.

C detrusor hyperreflexia.

D autonomic dysreflexia.

E vesical areflexia.

Following the initial interval of spinal shock, a quadriplegic who has difficulty with bladder emptying will most likely benefit from an alpha-adrenergic blocking agent when which of the following conditions develops:

D: "autonomic dysreflexia." is correct.

Patients with autonomic dysreflexia are more likely to have inappropriate contraction of the bladder neck during voiding. This may respond to alpha-adrenergic blocking agents designed to relax bladder neck and prostatic smooth muscle. Although external sphincter dyssynergia and hyperflexia may also be present in such a patient and could respond to alpha-blocker therapy based on a central drug action, these are not as compelling reasons for treatment.

Perkash I: Long-term urologic management of the patient with spinal cord injury. UROL CLIN N AM 1993;20(3):423-434.

The beneficial effect of thiazides in preventing recurrent calcium stones is most directly enhanced by restriction of dietary:

A sodium.

B potassium.

C magnesium.

D protein.

E carbohydrates.

The beneficial effect of thiazides in preventing recurrent calcium stones is most directly enhanced by restriction of dietary:

A: "sodium." is correct.

Thiazide agents stimulate calcium reabsorption in the distal nephron. They also induce volume depletion which stimulates proximal tubular calcium and sodium reabsorption. The hypocalciuric action of thiazides is attenuated by sodium consumption.

Sakhaee K, Harvey JA, Padalino PK, Whitson P, Pak CY: The potential role of salt abuse on the risk for kidney stone formation. J UROL 1993;150:310-312.

The best predictor of immediate graft function following living donor renal transplantation is:

A warm ischemia time.

B cold ischemia time.

C renal revascularization time.

D total ischemia time.

E donor kidney urine output just prior to nephrectomy.

The best predictor of immediate graft function following living donor renal transplantation is:

E: "donor kidney urine output just prior to nephrectomy." is correct.

While both cold and warm ischemic times have important roles in determining immediate function for cadaver renal transplant recipients, these times are negligible in living donor transplantation and rarely affect immediate graft function. The single best determinant of immediate function in live donor transplantation is the functional status of the kidney at the moment it is removed from the donor.

Barry JM: Renal transplantation, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, vol 1, chap 14, pp 505-530.

Ileal conduit stomal bleeding, incrustation, and plaque formation are usually due to:

A allergy to appliance material.

B Candida albicans infection.

C chronic exposure to alkaline urine.

D chronic exposure to acid urine.

E E. coli infection.

Ileal conduit stomal bleeding, incrustation, and plaque formation are usually due to:

C: "chronic exposure to alkaline urine." is correct.

Stomal bleeding, incrustation, plaque formation, and the formation of granulation tissue are complications in urinary conduit stomas. These complications are almost always secondary to alkaline urine exposure and poor hygiene of the collection device. Alkaline urine is often due to untreated urinary infection from urea splitting organisms or contamination of such organisms within the collecting device itself. Management includes treatment of urinary tract infection, urinary acidification, cutaneous soaks with weak acidic solution, treatment of the collecting device with acid solutions to rid contamination from urea splitting organisms, better fitting of the permanent appliance device, or a bedside collecting device to prevent bathing of the stoma in urine.

McDougal WS: Use of intestinal segments and urinary diversion in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, vol 3, chap 100, pp 3121-3158.

Persistent hypercalcemia that develops as a consequence of long-standing thiazide treatment may be indicative of:

A hyperparathyroidism.

B renal tubular acidosis.

C medullary sponge kidneys.

D hypervitaminosis D.

E Fanconi syndrome.

Persistent hypercalcemia that develops as a consequence of long-standing thiazide treatment may be indicative of:

A: "hyperparathyroidism." is correct.

Thiazides induce contraction of the extracellular fluid volume. This contraction results in hemoconcentration and, thereby, elevation of blood constituents including calcium. Hemoconcentration disappears in time (days to a few weeks) and transiently elevated blood chemistries revert to normal. A sustained elevation of serum calcium that occurs in the presence of a normal serum protein concentration suggests that the ionized calcium is elevated. Abnormally high ionic calcium is usually the result of hyperparathyroidism. Indeed, thiazides may be administered as a provocative test in the evaluation of patients with suspected normocalcemic hyperparathyroidism.

Menon M, Resnick M: Urinary lithiasis: Etiology, diagnosis, and medical management, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 8. Philadelphia, WB Saunders Co, 2002, chap 96, p 3229.

Yendt ER: Prevention of calcium stones with thiazide, in Thomas WC (ed): RENAL CALCULI. Springfield, Bannerstone House, 1976, p 156.

Klimiuk PS, Davies M, Adams PH: Primary hyperparathyroidism and thiazide diuretics. POSTGRAD MED J 1981;57:80-83.

A 72-year-old woman has a history of superficial transitional cell carcinoma of the bladder. An IVP shows a normal right kidney and collecting system, but a poorly functioning left kidney. Urine cytology is positive. Cystoscopy is normal. A left retrograde pyelogram is shown (see figure). Her serum creatinine is 1.5 mg/dl. The best management is:

A ureteral stent and intravesical BCG.

B BCG via percutaneous nephrostomy.

C ureteroscopy and laser ablation.

D ureterectomy and ileal ureter.

E nephroureterectomy.

A 72-year-old woman has a history of superficial transitional cell carcinoma of the bladder. An IVP shows a normal right kidney and collecting system, but a poorly functioning left kidney. Urine cytology is positive. Cystoscopy is normal. A left retrograde pyelogram is shown (see figure). Her serum creatinine is 1.5 mg/dl. The best management is:

E: "nephroureterectomy." is correct.

The history, clinical findings, and retrograde are most consistent with transitional cell carcinoma of the left ureter. When focal and noninvasive such tumors may be amenable to endoscopic manipulation with or without BCG, but the number of tumors visible on this retrograde make endoscopic management or treatment with BCG alone not practicable. Ureterectomy and ileal replacement might be an option in someone with a solitary kidney or impaired renal function, but in view of the normal creatinine, radiographically normal opposite kidney, and poor function of the left kidney, nephroureterectomy is the treatment of choice.

Messing EM, Catalona WJ: Urothelial tumors of the urinary tract, in Walsh PC, Retik AB, Vaughan ED, Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, chap 77, pp 2329-2382.

A 55-year-old man has a 16 Fr urethral catheter that cannot be removed because the balloon will not deflate. The best way to deflate it is to:

A. inject ether into the inflation port.

B. pass a guidewire down the inflation port.

C. puncture the balloon percutaneously with ultrasound guidance.

D. inject water into the inflation port until the balloon bursts.

E. pass a resectoscope sheath over the cut-off catheter to guide cystoscopic scissors.

A 55-year-old man has a 16 Fr urethral catheter that cannot be removed because the balloon will not deflate. The best way to deflate it is to:

B: "pass a guidewire down the inflation port." is correct.

A stiff guidewire passed down the inflation port will almost always clear the passage and let the water out without breaking the balloon. The other choices depend on breaking the balloon, often leaving a floating fragment that cannot be voided or irrigated out. Cystoscopy is then required to retrieve the fragment that, if left behind, will calcify and lead to infection. Ether cystitis could cause bladder wall damage and irreversible bladder contracture.

Grelmez I, Ekmekcioglu O, Karacagil M: A comparison of various methods to burst Foley catheter balloons and the risk of free -fragment formation. BRI J UROL 1996:77:716-718.

Which of these stone compositions is most resistant to fragmentation with SWL therapy:

A calcium oxalate monohydrate.

B calcium oxalate dihydrate.

C hydroxyapatite.

D uric acid.

E struvite.

Which of these stone compositions is most resistant to fragmentation with SWL therapy:

A: "calcium oxalate monohydrate." is correct.

The fragility of stones determines their ability to be fractured with therapies such as SWL. The fragility of a stone will affect the outcome of therapy. Calcium oxalate monohydrate, brushite and cystine stones have been shown to be the least fragile and are less likely to respond to therapy with SWL.

Saw KC, Lingeman JE: Management of calyceal stones. AUA UPDATE SERIES 1999, vol 18, lesson 20. Dretler SP: The clinical significance of variation in urinary stone fragility. J LITHOTRIP STONE DIS 1989;1:192-203.

A 62-year-old man with a long history of obstructive voiding symptoms has urine leakage from the perineum. A retrograde urethrogram demonstrates a 1.5 cm stricture of the bulbous urethra. The next step is:

A direct vision urethrotomy.

B suprapubic cystotomy.

C biopsy of urethra.

D excision and end-to-end anastomosis.

E first-stage urethroplasty.

A 62-year-old man with a long history of obstructive voiding symptoms has urine leakage from the perineum. A retrograde urethrogram demonstrates a 1.5 cm stricture of the bulbous urethra. The next step is:

C: "biopsy of urethra." is correct.

Carcinoma of the urethra should be suspected in those men who present with obstructive symptoms, a urethrocutaneous fistula and have a urethrogram with the findings as described above. Biopsy to exclude urethral carcinoma should be performed before attempts at repair are undertaken.

Herr HW: Surgery of penile and urethral carcinoma, in Walsh PC, Retik AB, Vaughan ED, Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, chap 108, pp 3401-3403.

A 65-year-old man undergoes an abdominal-perineal resection for adenocarcinoma the rectum. Postoperatively, he has a poor urinary stream, incomplete emptying, and urinary retention. A CMG confirms detrusor areflexia. The cause for these symptoms is damage to the:

A post-ganglionic parasympathetic nerves.

B post-ganglionic sympathetic nerves.

C pre-ganglionic sympathetic nerves.

D pudendal nerves.

E pelvic nerves.

A 65-year-old man undergoes an abdominal-perineal resection for adenocarcinoma the rectum. Postoperatively, he has a poor urinary stream, incomplete emptying, and urinary retention. A CMG confirms detrusor areflexia. The cause for these symptoms is damage to the:

E: "pelvic nerves." is correct.

The pelvic nerves are in close proximity to the rectum, and it is virtually impossible to remove the rectum without affecting the integrity of these structures. Thus, the parasympathetic motor supply to the detrusor is impaired at least temporarily. Although the post-ganglionic hypogastric plexus may be damaged, this should not affect detrusor contractility. The parasympathetic post -ganglionic nerves are in the wall of the bladder and will not be damaged by rectal surgery.

Steers WD: Physiology and pharmacology of the bladder and urethra, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, vol 1, chap 26, pp 870-906.

The metabolic abnormalities most frequently encountered in patients with cystic fibrosis who develop nephrolithiasis are:

A hypercalciuria and hypocitraturia.

B hypercalciuria and hyperuricosuria.

C hyperoxaluria and hypocitraturia.

D hyperoxaluria and hyperuricosuria.

E hyperuricosuria and hypocitraturia.

The metabolic abnormalities most frequently encountered in patients with cystic fibrosis who develop nephrolithiasis are:

C: "hyperoxaluria and hypocitraturia." is correct.

Patients with cystic fibrosis are at risk for developing nephrolithiasis. The metabolic defects most commonly encountered in this patient population are hypocitraturia and hyperoxaluria, due to increased gastrointestinal oxalate absorption and rapid intestinal transport. Several measures can be taken to attenuate stone activity including increased fluid intake, administration of pancreatic enzymes, a low fat and low oxalate diet, and potassium and calcium citrate therapy.

Perez-Brayfield, Caplan D, Gatti JM, Smith EA, Kirsch AJ: Metabolic risk factors for stone formation in patients with cystic fibrosis. J UROL 2002;167:480-484.

A 35-year-old woman with T8 paraplegia underwent augmentation ileocystoplasty for urinary incontinence unresponsive to clean intermittent catheterization and anticholinergics. Post-operatively, she develops recurrent incontinence unresponsive to anticholinergics. Her urodynamic evaluation is demonstrated (see figure). The next step is:

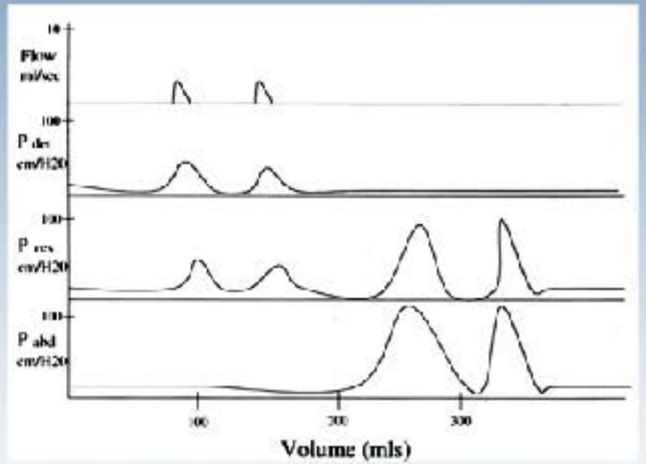
A ileovesicostomy.

B continent catheterizable urinary diversion.

C insert additional bowel patch into cystoplasty.

D pubovaginal sling.

E bladder neck closure and appendicovesicostomy.



A 35-year-old woman with T8 paraplegia underwent augmentation ileocystoplasty for urinary incontinence unresponsive to clean intermittent catheterization and anticholinergics. Post-operatively, she develops recurrent incontinence unresponsive to anticholinergics. Her urodynamic evaluation is demonstrated (see figure). The next step is:

C: "insert additional bowel patch into cystoplasty." is correct.

This patient suffers from post-augmentation cystoplasty incontinence because of intermittent involuntary contractions of the augmented bladder as seen in the urodynamic study. This can occur despite adequate detubularization of the bowel or from inadequate bivalving of the bladder. When anticholinergics fail, the best treatment is inserting an additional patch of bowel into the cystoplasty. There is no evidence of urethral insufficiency on the urodynamic study as there is no leakage with Valsalva maneuvers. Therefore, procedures to either augment urethral resistance or close the urethra are not indicated. There is no indication to perform a supravesical urinary diversion since the lower urinary tract is still useful and can be further reconstructed.

Stone AR, Rentzepis M: Augmentation cystoplasty, in O'Donnell PD (ed): URINARY INCONTINENCE. St. Louis, Mosby Year Book, 1997, chap 51, pp 375-383.

A 68-year-old man has fever, chills, and left flank pain. Two years previously, he underwent radical cystectomy and ileal conduit diversion for Stage T3b transitional cell bladder cancer. Abdominal CT scan reveals left hydronephrosis, a normal right kidney, and a retroperitoneal mass surrounding the left ureter. The next step is I.V. antibiotics and:

A observation.

B left nephrectomy.

C left percutaneous nephrostomy.

D percutaneous biopsy of retroperitoneal mass.

E retrograde insertion of left ureteral stent.

A 68-year-old man has fever, chills, and left flank pain. Two years previously, he underwent radical cystectomy and ileal conduit diversion for Stage T3b transitional cell bladder cancer. Abdominal CT scan reveals left hydronephrosis, a normal right kidney, and a retroperitoneal mass surrounding the left ureter. The next step is I.V. antibiotics and:

C: "left percutaneous nephrostomy." is correct.

This patient is acutely ill with fever and an obstructed left kidney. The original tumor stage and current CT findings make obstruction of the left kidney by metastatic disease likely. The immediate need is for antibiotics and relief of renal obstruction. This is best accomplished by percutaneous nephrostomy.

Streem SB, Franke JJ, Smith JA Jr: Management of upper urinary tract obstruction, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 8. Philadelphia, WB Saunders Co, 2002, chap 13, pp 463-512.

A 56-year-old man with a solitary kidney and hypertension undergoes SWL for a 2 cm renal pelvic calculus. Immediately after the procedure, he has a blood pressure of 90/60 mm Hg, gross hematuria, and flank pain. A CT scan reveals a 10 x 12 cm perirenal hematoma. His blood pressure stabilizes with fluid resuscitation and two units of packed RBC's. The next step is:

A continue supportive therapy.

B ureteral stent placement.

C arteriography.

D percutaneous drainage of the hematoma.

E renal exploration.

A 56-year-old man with a solitary kidney and hypertension undergoes SWL for a 2 cm renal pelvic calculus. Immediately after the procedure, he has a blood pressure of 90/60 mm Hg, gross hematuria, and flank pain. A CT scan reveals a 10 x 12 cm perirenal hematoma. His blood pressure stabilizes with fluid resuscitation and two units of packed RBC's. The next step is:

A: "continue supportive therapy." is correct.

The likelihood of significant bleeding after SWL is approximately 1%, although perirenal hemorrhage may be noted in up to 25% of patients if CT or MRI is performed routinely after these procedures. Risk factors for bleeding include coagulopathy, bleeding dyscrasias, hypertension and concurrent treatment with medications that alter platelet function such as an NSAIDS (ibuprofen,ketorolac etc.). Intervention is rarely required. Most hematomas will resolve and either new onset hypertension or exacerbation of existing hypertension is unlikely. Renal function is also unlikley to be negatively influenced by the hematoma.

Krishknamurthi V, Streem S: Long-term radiographic and functional outcome of extracorporeal shock wave lithotripsy induced perirenal hematomas. J UROL 1995;154:1673-1675.

A 62-year-old man underwent an ileal conduit using a loop (Turnbull) stoma. He has abdominal discomfort and a recurrent large parastomal hernia after two failed repairs. The most appropriate treatment is:

A conversion to colon conduit.

B application of abdominal binder.

C closure of the fascial defect with synthetic mesh graft.

D transposition of stoma to opposite side of abdomen.

E conversion to standard end-on stoma.

A 62-year-old man underwent an ileal conduit using a loop (Turnbull) stoma. He has abdominal discomfort and a recurrent large parastomal hernia after two failed repairs. The most appropriate treatment is:

D: "transposition of stoma to opposite side of abdomen." is correct.

Parastomal hernias occur more commonly with loop than end-on stomas. The most effective method of such hernia management is by relocation of the stomal site to the other side of the abdominal wall and by closure of the hernia. Meticulous closure of the rectus fascia is the best method of preventing this complication.

Helal M, Austin P, Spyropoulos E, Pow-Sang J, et al: Evaluation and management of parastomal hernia in association with continent urinary diversion. J UROL 1997;157:1630-1632.

A 28-year-old man with an ileal conduit for 20 years is scheduled for a renal transplant. He had posterior urethral valves treated as an infant. A CMG shows a 75 cc capacity bladder with uninhibited contractions, and his maximum voiding pressure is 50 cm H2O. After five days of bladder cycling, his bladder capacity increases to 200 cc. The best management is:

A transplant into the existing ileal conduit.

B bladder augmentation before transplant.

C transplant into native bladder.

D neobladder construction before transplant.

E Indiana pouch construction before transplant.

A 28-year-old man with an ileal conduit for 20 years is scheduled for a renal transplant. He had posterior urethral valves treated as an infant. A CMG shows a 75 cc capacity bladder with uninhibited contractions, and his maximum voiding pressure is 50 cm H2O. After five days of bladder cycling, his bladder capacity increases to 200 cc. The best management is:

C: "transplant into native bladder." is correct.

Transplantation into a pre-existing urinary diversion is necessary when the bladder is absent, the recipient is totally incontinent and cannot undergo repair or irreparable bladder damage has occurred. Selected patients may undergo successful undiversion at transplantation even after many years of urinary diversion. These patients should have a careful review of old medical records and a review of voiding habits before diversion. They should undergo urodynamics, voiding cystourethrography and cystoscopy. In the absence of significant fibrosis, long term defunctionalized bladders should improve with restoration of urine flow. This may be assessed after 3-5 days of continuous bladder irrigation by suprapubic tube or intermittent catheterization. This should demonstrate a bladder capacity > 100cc and voiding pressure < 100 cm. water.

Serrano DP, Flechner SM, Modlin CS, Wyner LM, Novick AC: Transplantation into the long-term defunctionalized bladder. J UROL 1996;156:885-888.

A 42-year-old woman with poorly controlled diabetes has a residual urine of 200 cc. She has had one episode of cystitis and currently has no voiding symptoms. The best way to prevent recurrent bacterial urinary tract infections is:

A tight control of diabetes.

B clean intermittent catheterization.

C oral estrogens.

D avoid bladder instrumentation.

E suppressive antibiotic therapy.

A 42-year-old woman with poorly controlled diabetes has a residual urine of 200 cc. She has had one episode of cystitis and currently has no voiding symptoms. The best way to prevent recurrent bacterial urinary tract infections is:

D: "avoid bladder instrumentation." is correct.

There have been no studies to show that glucose in the urine predisposes to bacterial urinary infections. However, glucosuria may increase the colony count or lead to fungal infections. Similarly, any benefit from reducing the residual urine by intermittent catheterization is more than offset by the risk of colonization of the bladder. Using prophylactic antibiotics may not be warranted if the patient is otherwise normal and has an occasional UTI. Most important is to avoid instrumentation which may induce infections in individuals with small residual urines. Estrogens may help reduce UTIs in elderly women with atrophic vaginitis by reducing vaginal pH in the post-menopausal state.

Schaeffer AJ: Infection of the urinary tract, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, vol 1, chap 15, pp 533-614.

A newborn boy has not voided for the first 18 hours of life. A renal ultrasound is obtained (see figure). The next step is:

A observation.

B VCUG.

C MAG-3 renal scan.

D urethral catheter.

E serum creatinine.

A newborn boy has not voided for the first 18 hours of life. A renal ultrasound is obtained (see figure). The next step is:

A: "observation." is correct.

The ultrasound demonstrates sonolucent renal pyramids which are a normal finding in infants. This is frequently mistaken for caliectasis. It is not uncommon for infants to have delayed voiding even beyond 24 hours. Simple observation of this child is all that is needed.

Walker RD III: Evaluation of the pediatric urologic patient, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, vol 2, chap 53, pp 1619-1628.

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The neurological condition associated with urinary incontinence and an open bladder neck is:

A sacral agenesis.

B cervical spinal cord injury.

C Parkinson's disease.

D neurosyphilis.

E herniated L4-L5 disk.

The neurological condition associated with urinary incontinence and an open bladder neck is:

A: "sacral agenesis." is correct.

Intrinsic sphincter deficiency with an open bladder neck can be caused by sacral cord neuropathy such as sacral agenesis or bilateral pelvic plexus injury. Parkinson's disease can cause detrusor hyperreflexia but not an open bladder neck. Neurosyphilis can cause a sensory neurogenic bladder and may be associated with overflow incontinence.

Pang D: Sacral agenesis and cauda spinal cord malformations. NEUROSURG 1993;32:755-779.

Chancellor MB, Blaivas JG: Spinal cord injury, in Blaivas JG, Chancellor MB (eds): ATLAS OF URODYNAMICS. Philadelphia, Williams and Wilkins, 1996, pp 160-173.

A 40-year-old woman has a large staghorn stone (surface area 3500 mm2) in her right kidney. The collecting system is grossly dilated with infundibular stenoses. Nuclear renography demonstrates that this kidney provides 30% of global renal function. Serum creatinine is 1.2 mg/dl. The best treatment is:

A serial SWL with ureteral stent.

B percutaneous nephrolithotomy.

C percutaneous nephrolithotomy combined with SWL.

D anatrophic nephrolithotomy.

E nephrectomy.

A 40-year-old woman has a large staghorn stone (surface area 3500 mm2) in her right kidney. The collecting system is grossly dilated with infundibular stenoses. Nuclear renography demonstrates that this kidney provides 30% of global renal function. Serum creatinine is 1.2 mg/dl. The best treatment is:

D: "anatrophic nephrolithotomy." is correct.

This individual has an extremely large staghorn stone. Shock wave lithotripsy monotherapy would not be appropriate as it would be virtually impossible to render this patient stone free. When stone surface area is greater than 2,500 mm2, stone free rates with percutaneous based therapy are reported to be approximately 50%. The complex collecting system anatomy in this case would also be a hindrance with this approach. Nephrectomy should not be considered as the patient is young and the involved kidney has reasonable function. Anatrophic nephrolithotomy is the most appropriate treatment in this setting.

Lam HS, Lingeman JE, Barron M, et al: Staghorn calculi: Analysis of treatment results between initial percutaneous nephrostolithotomy and extracorporeal shock wave lithotripsy monotherapy with reference to surface area. J UROL 1992;147:1219-1225.

Segura JW, Preminger GM, Assimos DG, et al: Nephrolithiasis clinical guidelines panel summary report on the management of staghorn calculi. J UROL 1994;151:1648-1651.

The optimal high volume, low pressure continent urinary reservoir is created by:

A approximating a spherical configuration.

B employing small intestine.

C combination of small and large intestine.

D an orthotopic location of reservoir.

E disruption of peristaltic contractions.

The optimal high volume, low pressure continent urinary reservoir is created by:

A: "approximating a spherical configuration." is correct.

The success of a continent reservoir depends primarily on its ability to store considerable volume of urine at low pressure. The most effective manner of attaining this goal is through the maximization of reservoir volume for a given surface area. This is best accomplished by using a spherical configuration.

Benson MC, Olsson CA: Continent urinary diversion, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, vol 3, chap 103, pp 3193-3238.

Treatment of neurogenic bladder dysfunction with prevention of upper urinary tract damage is best determined by:

A. Valsalva leak point pressure.

B. detrusor leak point pressure.

C. EMG activity during detrusor contraction.

D. detrusor pressure at maximum flow.

E. VCUG.

Treatment of neurogenic bladder dysfunction with prevention of upper urinary tract damage is best determined by:

B: "detrusor leak point pressure." is correct.

Assessment of bladder compliance is critical in the management of patients with neurogenic vesicourethral dysfunction. This is best accomplished by measurement of the detrusor leak point pressure. This parameter primarily assesses detrusor compliance however is partially related to outlet resistance. When it exceeds 40 cm $H_2O$, upper urinary tract damage is probable. Valsalva leak point pressure and maximum urethral pressure are used to assess the urethra's ability to withstand increases in intraabdominal pressure, particularly in patients suspected of stress urinary incontinence. Detrusor pressure at maximum flow is the significant parameter measured in patients undergoing pressure-flow urodynamics for the evaluation of bladder outlet obstruction. Although increased EMG activity during bladder contraction may indicate evidence of detrusor external sphincter dyssynergia, this does not necessarily imply the presence of detrusor storage pressures predictive for upper urinary tract deterioration.

Webster GD, Kreder KJ: The neurourologic evaluation, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, vol 1, chap 28, pp 935-936.

A 24-year-old man has recurrent cystine nephrolithiasis. Urine volume is more than three liters per day. He is taking alpha-mercaptoproprionylglycine (Thiola) and potassium citrate tablets three times per day with no side effects. He notes that his stools are filled with tablet-like material. The best recommendation is:

A reassurance.

B take the tablets before meals.

C evaluate for malabsorption.

D change Thiola to D-penicillamine.

E change potassium citrate formulation.

A 24-year-old man has recurrent cystine nephrolithiasis. Urine volume is more than three liters per day. He is taking alpha-mercaptoproprionylglycine (Thiola) and potassium citrate tablets three times per day with no side effects. He notes that his stools are filled with tablet-like material. The best recommendation is:

A: "reassurance." is correct.

Potassium citrate comes in a variety of formulations. Potassium citrate tablets are produced with a wax matrix to optimize their sustained release. It is not infrequent for these wax matrix tablet casts to be visualized in stools. This is most frequently seen in individuals with ileostomies. Patients should be reassured that the medicine is being delivered. To insure that the citrate is being absorbed, it would be appropriate to check the urine pH. If the urine is acidic, it may be necessary to increase the potassium citrate dose.

PHYSICIAN'S DESK REFERENCE, ed 55. Montvale, New Jersey, Medical Economics Data, 2001, pp 2064-2065.

A 29-year-old man with infertility is azoospermic. He underwent right orchiectomy three years earlier for trauma. A review of the pathology from that procedure shows normal spermatogenesis. A left vasogram is shown (see figure). The most likely diagnosis is:

A. Sertoli-cell-only syndrome.

B. Klinefelter syndrome.

C. obstruction of the ejaculatory duct.

D. obstruction of the vas deferens.

E. epididymal obstruction.

A 29-year-old man with infertility is azoospermic. He underwent right orchiectomy three years earlier for trauma. A review of the pathology from that procedure shows normal spermatogenesis. A left vasogram is shown (see figure). The most likely diagnosis is:

E: "epididymal obstruction." is correct.

Sertoli-cell-only and Klinefelter syndromes are bilateral, and thus ruled out by the history of a normal contralateral testis biopsy. Vasographic findings rule out obstruction of the vas and ejaculatory duct. Congenital absence of the epididymis or incomplete fusion of epididymis and vas deferens are thus the cause of azoospermia in this setting.

Sigman M, Jarow JP: Male infertility, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 8. Philadelphia, WB Saunders Co, 2002, chap 43, pp 1475-1531.

In central (pituitary) diabetes insipidus, the nephron segment that contains the most dilute fluid is the:

A proximal convoluted tubule.

B descending limb of Henle's loop.

C ascending limb of Henle's loop.

D distal convoluted tubule.

E collecting duct.

In central (pituitary) diabetes insipidus, the nephron segment that contains the most dilute fluid is the:

E: "collecting duct." is correct.

Central diabetes insipidus involves a defect in the production or release of antidiuretic hormone from the hypothalamo-neurohypophyseal system. Antidiuretic hormone affects the permeability of the distal tubule and collecting duct to water from the filtrate. With diminished antidiuretic hormone production, the distal tubule and collecting duct reabsorb less water from the filtrate yielding concentrated blood and dilute urine. The most dilute urine will be in the collecting duct.

Blumenfeld JD, Vaughan ED Jr: Renal physiology, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, vol 1, chap 7, pp 286-297.

A 24-year-old man sustains a rifle shot to the abdomen. Exploratory laparotomy reveals multiple small bowel perforations and a colonic injury. Exploration of a right retroperitoneal hematoma reveals partial transection of the mid-ureter. The ureter appears viable. The next step is:

A placement of an internal stent.

B primary closure.

C nephrectomy.

D segmental resection and ureteroureterostomy.

E transureteroureterostomy.

A 24-year-old man sustains a rifle shot to the abdomen. Exploratory laparotomy reveals multiple small bowel perforations and a colonic injury. Exploration of a right retroperitoneal hematoma reveals partial transection of the mid-ureter. The ureter appears viable. The next step is:

D: "segmental resection and ureteroureterostomy." is correct.

High velocity bullets cause local extensive damage by the "blast effect" on tissues. The visual appearance of the ureter at the site of injury is an unreliable sign of viability. Extensive local debridement and ureteroureterostomy is the best method to assure that local damage from the blast has not occurred. Primary closure or placement of an internal ureteral stent does not prevent extensive ureteral necrosis and the resulting sequelae from developing. Nephrectomy is not indicated. Transureteroureterostomy is unnecessary since massive ureteral loss has not occurred and a ureteroureterostomy can be successfully accomplished.

McAninch JW, Santucci RA: Genitourinary trauma, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 8. Philadelphia, WB Saunders Co, 2002, chap 105, p 3707.

Cass AS: Ureteral contusion with gunshot wounds. J TRAUMA 1984;25:59-60.

A 31-year-old woman had an ileal conduit urinary diversion at age ten years for a neurogenic bladder secondary to a lumbar myelomeningocele. She is now ten weeks pregnant. In addition to routine obstetrical care, she should have:

A amniocentesis.

B a Cesarean section at term.

C no additional treatment.

D prophylactic antibiotics.

E serial renal ultrasounds.

A 31-year-old woman had an ileal conduit urinary diversion at age ten years for a neurogenic bladder secondary to a lumbar myelomeningocele. She is now ten weeks pregnant. In addition to routine obstetrical care, she should have:

C: "no additional treatment." is correct.

An ileal conduit is not a contraindication to having a successful, normal pregnancy. Unless a specific indication exists, the routine obstetrical care of a pregnant woman with an ileal conduit is the same as that for a woman with no previous urinary tract surgery. Antibiotics are only required if the patient is symptomatic.

Loughlin KR: Management of urologic problems during pregnancy. UROL 1994;44:159.

Kennedy WA, Hensle TW, Reiley EA, et al: Pregnancy after orthotopic continent urinary diversion. SUR, GYN, OBST 1993;177:405-409.

The earliest clinically detectable pubertal change in a boy is:

A enlargement of the testes.

B appearance of pubic hair.

C deepening of the voice.

D scrotal rugation.

E increase in phallic length.

The earliest clinically detectable pubertal change in a boy is:

A enlargement of the testes.

B appearance of pubic hair.

C deepening of the voice.

D scrotal rugation.

E increase in phallic length.

The earliest clinically detectable pubertal change in a boy is:

A: "enlargement of the testes." is correct.

While the order of events in adolescence is subject to some variability, measurable testis enlargement is generally the first event, with downy pubic hair appearing close there after.

Matsumoto AM: The testis, in Felig P, Frohman LA (eds): ENDOCRINOLOGY AND METABOLISM, ed 4. New York, McGraw Hill, Inc, 2001, p 642.

A 25-year-old male pedestrian is struck by an automobile. He has a left superior and inferior pubic ramus fracture as well as a fracture of the sacroiliac joint. He has a palpable bladder. No blood is noted at the meatus and the prostate is in normal position on digital examination. The next step is:

A IVP.

B retrograde urethrogram.

C cystogram.

D pelvic CT scan.

E peritoneal lavage.

A 25-year-old male pedestrian is struck by an automobile. He has a left superior and inferior pubic ramus fracture as well as a fracture of the sacroiliac joint. He has a palpable bladder. No blood is noted at the meatus and the prostate is in normal position on digital examination. The next step is:

B: "retrograde urethrogram." is correct.

The most likely genitourinary injury in this patient is a prostatomembranous urethral disruption, as suggested by the type of pelvic fracture. A urethrogram is the easiest, most specific, and most rapid way to assess this possibility.

McAninch JW, Santucci RA: Genitourinary trauma, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 8. Philadelphia, WB Saunders Co, 2002, chap 105, p 3707.

Lowe MA, Mason JT, Luna GK, et al: Risk factors for urethral injuries in men with traumatic pelvic fractures. J UROL 1988;140:506-507.

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Lowe MA, Mason JT, Luna GK, et al: Risk factors for urethral injuries in men with traumatic pelvic fractures. J UROL 1988;140:506-507.

A 55-year-old woman has flank pain, fever, and malaise. Her serum creatinine is 1.6 mg/dl. A CT scan of the abdomen is performed (see figure). The most appropriate treatment is:

A nephroureterectomy.

B percutaneous drainage.

C percutaneous nephrolithotomy.

D long-term antibiotics.

E nephrectomy.

A 55-year-old woman has flank pain, fever, and malaise. Her serum creatinine is 1.6 mg/dl. A CT scan of the abdomen is performed (see figure). The most appropriate treatment is:

E: "nephrectomy." is correct.

The clinical presentation and CT scan is most consistent with xanthogranulomatous pyelonephritis. Lipid laden macrophages are commonly identified in renal tissue and urine. Such cells are not seen in the urine of patients with pyelonephritis. Although renal adenocarcinomas and transitional cell carcinomas have been reported to occur in such cases, they are rare and the clinical picture is most consistent with an inflammatory, not a neoplastic, disorder. The CT scan demonstrates the presence of a calculus and severe distortion of the renal parenchyma. In this case, complete removal of the kidney is warranted.

Schaeffer AJ: Infections of the urinary tract, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 8. Philadelphia, WB Saunders Co, 2002, chap 15, pp 515-602.

In a patient with Cushing syndrome due to adrenal adenoma, the changes in hormone secretion following a high dose dexamethasone suppression test are best represented by:

| | ACTH | Urinary Free Cortisol |
|---|---|---|
| A | ↑ | ↓ |
| B | ↑ | ↑ |
| C | ↔ | ↔ |
| D | ↓ | ↓ |
| E | ↓ | ↑ |

In a patient with Cushing syndrome due to adrenal adenoma, the changes in hormone secretion following a high dose dexamethasone suppression test are best represented by:

| ACTH | Urinary Free Cortisol |
|---|---|

C: " ↔ ↔" is correct.

Patients with adrenal Cushing syndrome have autonomous adrenal production of cortisol which suppresses ACTH. Exogenous administration of either low-dose or high-dose dexamethasone is unable to alter the autonomous adrenal production. Therefore, it results in no change in either ACTH or urinary free cortisol. For pituitary adenomas, high-dose dexamethasone is capable of suppressing ACTH and urinary free cortisol production.

Goldfarb DA: Contemporary evaluation and management of Cushing's syndrome. WORLD J UROL 1999;17:22-25.

A 23-year-old man suffers severe scrotal, penile, and buttock burns. Four days later, the scrotal skin appears necrotic and malodorous and the testes are visible. After administering antibiotics and performing local debridement, the next step is:

A. local wound care and delayed reconstruction.

B. split thickness skin grafts to cover testes.

C. place testes in subfascial thigh pouches.

D. create lateral subcutaneous flaps to cover the scrotum.

E. place testes into infrapubic subcutaneous space.

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A: "local wound care and delayed reconstruction." is correct.

With major loss of scrotal skin from infection and burn, the testes and spermatic cords need to be debrided and kept viable until scrotal reconstruction. While testes have been placed in various deep pouches for immediate coverage, these positions may interfere with future spermatogenesis in a young male. Bertini and Corriere have reported using saline dressings to cover exposed testes for several weeks until scrotal reconstruction or grafting is possible. Split thickness or mesh skin grafts are unsuccessful when there is infection, but may be useful later for reconstruction.

Bertini JE, Corriere JN Jr: The etiology and management of genital injuries. J TRAUMA 1988;28(8):1278-1281.

McAninch JW, Santucci RA: Genitourinary trauma, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 8. Philadelphia, WB Saunders Co, 2002, chap 105, p 3707.

During a TURP, the surgeon resects into the rectum. A 1 cm laceration is seen. The next step should be:

A prolonged urethral catheter drainage.

B immediate suprapubic cystostomy and colostomy.

C immediate perineal repair.

D immediate suprapubic repair with an omental graft.

E fulguration of the fistula edges.

During a TURP, the surgeon resects into the rectum. A 1 cm laceration is seen. The next step should be:

A: "prolonged urethral catheter drainage." is correct.

Prostato-rectal fistulas after TUR will almost always heal with prolonged catheter drainage. If this fails, open repair may be necessary. Fulguration will make the fistula worse as it will cause tissue necrosis. A low residue diet and dilation of the rectal sphincter may be helpful.

Mebust WK: Transurethral surgery, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, vol 3, chap 49, pp 1511-1519.

The process of apoptosis involves:

A cytochrome C inactivation.

B cyclin-dependent kinase stimulation.

C caspase activation.

D telomerase stimulation.

E autoimmune cell death.

The process of apoptosis involves:

C: "caspase activation." is correct.

Apoptosis is the well-controlled cellular cycle of cell mortality in which an orderly and predetermined set of processes result in autolysis of the cell. Cyclin-dependent kinase inhibitors are linked to the control of cell cycle and DNA replication. They are checkpoints in which the cell's DNA is checked for damage prior to release of cell replication signals. Telomere length functions as a type of mitotic clock quantifying the number of cell cycles. When the telomeres shorten with each cell replication and when reaching a critical length they inhibit DNA replication and are linked to cell senescence. Telomerases reverse this process and promote the immortality found in cancer and other cell lines. Ischemic necrosis and autoimmune cell death do not involve these well-controlled cellular processes but instead induce an intrinsic and extrinsic cascade of cytotoxic substances.

Partin AW, Coffey DS: The molecular biology, endocrinology, and physiology of the prostate and seminal vesicles, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, vol 2, chap 45, pp 1381-1428.

Inhibin is a substance derived from the testicle which mediates secretion of:

A testosterone.

B follicle-stimulating hormone.

C luteinizing hormone.

D gonadotropin-releasing hormone.

E mullerian inhibiting factor.

Inhibin is a substance derived from the testicle which mediates secretion of:

B: "follicle-stimulating hormone." is correct.

Inhibin is a heterodimeric protein hormone in the transforming growth factor family of protein hormones including activin. Inhibin is secreted by the Sertoli cell for normal feedback inhibition of follicle-stimulating hormone (FSH).

Schlegel PN, Hardy M: Male reproductive physiology, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 8. Philadelphia, WB Saunders Co, 2002, pp 1437-1438.

Glass AR, Vigersky R: Pituitary-testicular axis, in Lipshultz LI, Howards SS (eds): INFERTILITY IN THE MALE, ed 2. St. Louis, Mosby Year Book, 1991, p 31.

The most important factor for successful vesicovaginal fistula repair using an omental interposition graft is:

A the length of the omentum.

B adequate mobilization of the gastroepiploic vascular pedicle.

C adequate mobilization of the omentum by splenectomy.

D ligation of the short gastric vessels.

E vaginal closure using non-absorbable suture material.

The most important factor for successful vesicovaginal fistula repair using an omental interposition graft is:

B: "adequate mobilization of the gastroepiploic vascular pedicle." is correct.

In complicated vesicovaginal fistulae, a supravesical approach is appropriate. Since the surrounding areas may be poorly vascularized and fibrotic, omentum will supply good tissue into the area of the fistula. Even if the omentum is short, it can be mobilized to reach the pelvis if the full length of the gastroepiploic arch is mobilized. Turner-Warwick has stated "...even the shortest omental apron will reach the pelvis..." The spleen should not need to be mobilized for this. Nonabsorbable sutures should not be used because they may become exposed to the fistulous area of either the bladder or vagina and cause calculi or persistent fistulae. If the omentum overlaps the area of the fistulae, the fistulae will usually close even if the suture lines in bladder or vagina are tenuous, break down, or cannot be closed adequately.

Raz S, Little NA, Juma S: Female urology, in Walsh PC, Retik AR, Stamey TA, Vaughan ED (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, pp 2820-2825.

Renal blood flow is autoregulated primarily by:

A renal innervation.

B the macula densa.

C endothelin.

D efferent arteriolar tone.

E afferent arteriolar tone.

Renal blood flow is autoregulated primarily by:

E: "afferent arteriolar tone." is correct.

Autoregulation of glomerular filtration rate and renal blood flow occurs primarily through variation in afferent arteriolar resistance. Micropuncture studies support the hypothesis that changes in rate of fluid flow in the distal tubule elicit these changes in glomerular arteriolar resistance, a phenomenon known as tubuloglomerular feedback. Renal autoregulation is responsible for the relatively small changes in renal blood flow and glomerular filtration rates over wide ranges of perfusion pressures. This autoregulation is present in both innervated and denervated kidneys.

Maddox DA, Brenner BM: Glomerular ultrafiltration, in Brenner BM (ed): THE KIDNEY, ed 5. Philadelphia, WB Saunders Co, 1996, chap 7, pp 286-333.

The increased risk for calculous disease during pregnancy is associated with:

A increased parathyroid hormone levels.

B absorptive hypercalciuria.

C placental suppression of 1,25-dihydroxycholecalciferol.

D decreased urinary glycosaminoglycans.

E decreased urinary citrate levels.

The increased risk for calculous disease during pregnancy is associated with:

B: "absorptive hypercalciuria." is correct.

During normal pregnancy there is a physiological state of absorptive hypercalciuria. PTH is suppressed and citrate and glycosaminoglycan excretion are increased.

Biyani CS, Joyce A: Urolithiasis in pregnancy. BRI J UROL 2002;89:811-818.

Three days after an abdominal hysterectomy for cervical cancer, a 64-year-old woman has leakage of urine and purulent material from the vagina. A cystogram is normal, but a retrograde pyelogram demonstrates a left ureterovaginal fistula and marked hydronephrosis. The right upper tract is normal. Management should be I.V. antibiotics and:

A ureteroneocystostomy.

B ureteral stent placement.

C nephrectomy.

D ureteroneocystostomy with psoas hitch.

E transureteroureterostomy.

Three days after an abdominal hysterectomy for cervical cancer, a 64-year-old woman has leakage of urine and purulent material from the vagina. A cystogram is normal, but a retrograde pyelogram demonstrates a left ureterovaginal fistula and marked hydronephrosis. The right upper tract is normal. Management should be I.V. antibiotics and:

B: "ureteral stent placement." is correct.

In the present case the fistula appears to be limited and ureteral obstruction is not complete, as retrograde injection of contrast outlines the proximal ureter. Placement of a ureteral stent may result in resolution of the fistula. If retrograde placement is not successful, an antegrade approach can be undertaken. If neither approach is successful, immediate surgical repair would be indicated. Although a ureteroureterostomy could be considered, given the location of the fistula and what appears to be infection, ureteroneocystostomy may be the best approach.

Peters PC, Sagalowsky AI: Genitourinary trauma, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, vol 3, chap 79, pp 2578-2581.

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The nerves of the bladder most affected by capsaicin are:

A unmyelinated and parasympathetic.

B myelinated and parasympathetic.

C unmyelinated and sympathetic.

D myelinated and sympathetic.

E myelinated, parasympathetic and sympathetic.

The nerves of the bladder most affected by capsaicin are:

A: "unmyelinated and parasympathetic." is correct.

Myelinated A-delta and unmyelinated C-fibers are the predominant sensory nerves from the urinary bladder. The latter are nociceptive, synapse in the sacral cord in the region of the parasympathetic motor neurons, and are depleted of their active substances by capsaicin.

Mattiasson A: Physiology of continence, in O'Donnell PD (ed): URINARY INCONTINENCE. St. Louis, Mosby Year Book, 1997, chap 5, p 28.

Which of the following is the most sensitive biochemical test for confirming the diagnosis of pheochromocytoma:

A plasma free metanephrines.

B plasma catecholamines.

C urinary metanephrines.

D urinary vanillylmandelic acid.

E urinary catecholamines.

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B plasma catecholamines.

C urinary metanephrines.

D urinary vanillylmandelic acid.

E urinary catecholamines.

Which of the following is the most sensitive biochemical test for confirming the diagnosis of pheochromocytoma:

A: "plasma free metanephrines." is correct.

A number of biochemical tests are available to exclude or confirm the diagnosis of pheochromocytoma. Plasma free metanephrine testing is the most sensitive test (99%). Other acceptable clinical tests with lower sensitivities include urinary fractionated metanephrines (97%), plasma catecholamines (84%), urinary catecholamines (86%), urinary total metanephrines (77%), and urinary vanillymandelic acid (64%).

Lenders JWM, Pacak K, Walther MM, et al: Biochemical diagnosis of pheochromocytoma: Which test is best? JAMA 2002;287:1427-1434.

In a boy with a large ureterocele in a duplex system, the most compelling reason for combining a bladder reconstruction with partial nephrectomy is:

A ipsilateral Grade 3 reflux.

B contralateral Grade 3 reflux.

C contralateral hydronephrosis.

D bladder outlet obstruction.

E sepsis.

In a boy with a large ureterocele in a duplex system, the most compelling reason for combining a bladder reconstruction with partial nephrectomy is:

D: "bladder outlet obstruction." is correct.

Large ureteroceles can occasionally act as a ball valve causing bladder outlet obstruction and a stress pattern of urinary incontinence after toilet training. This occurs more often in males. Bladder outlet obstruction is often a reason for bladder reconstruction whether primarily or secondarily. Sepsis will respond to antibiotics and upper pole surgery. Reflux can be managed with prophylactic antibiotics and careful follow-up studies until it resolves or there are clear indications for intervention.

Snyder HM: Anomalies of the ureter, in Gillenwater JY, Grayhack JT, Howards SS, Duckett JW (eds): ADULT AND PEDIATRIC UROLOGY, ed 3. Philadelphia, WB Saunders Co, 1996, p 2217.

A 65-year-old man with severe rheumatoid arthritis has been on chronic corticosteroid therapy. He undergoes a TURP, and is given I.V. hydrocortisone 50 mg every six hours that day. On the first postoperative day, his serum sodium is 124 mEq/l. The most likely cause of the hyponatremia is:

A lack of mineralocorticoid replacement.

B salt-losing nephropathy.

C dilutional hyponatremia from the TURP.

D hypotonic I.V. fluids.

E postobstructive diuresis.

A 65-year-old man with severe rheumatoid arthritis has been on chronic corticosteroid therapy. He undergoes a TURP, and is given I.V. hydrocortisone 50 mg every six hours that day. On the first postoperative day, his serum sodium is 124 mEq/l. The most likely cause of the hyponatremia is:

C: "dilutional hyponatremia from the TURP." is correct.

The most likely cause of the decreased serum sodium is dilutional from fluid absorption during TURP. The patient may have adequate endogenous mineralocorticoids since aldosterone secretion is less depressed than cortisol secretion in patients on steroids. More importantly, the high dose of cortisol he received should compensate for any mineralocortical deficit since cortisol does have some mineralocorticoid activity. Patients who take a low to moderate dose of corticosteroid therapy do not usually require supplemental intravenous steroids.

Young WI: Adrenocortical insufficiency, in Rakel RE (ed): CONN'S CURRENT THERAPY. Philadelphia, WB Saunders Co, 1995, pp 550-554.

Adrenal hemorrhage is most frequently associated with:

A heparin induced thrombocytopenia.

B trauma.

C warfarin therapy.

D sepsis.

E adrenal adenoma.

Adrenal hemorrhage is most frequently associated with:

A: "heparin induced thrombocytopenia." is correct.

Adrenal hemorrhage is an uncommon condition that is infrequently diagnosed while patients are alive. It has classically been associated with meningococcal septicemia. Recent series, however, have demonstrated it is most often associated with heparin induced thrombocytopenia. Sepsis, stress and warfarin therapy are rarer causes.

Vella A, Nippoldt TB, Morris JC: Adrenal hemorrhage: A 25-year experience at the Mayo Clinic. MAYO CLIN PROC 2001;76:161-168.

A 14-year-old boy with incontinence had posterior urethral valves resected as a neonate. The most likely etiology for his incontinence is:

A occult neurogenic bladder.

B sphincteric injury.

C hyperreflexic bladder.

D hypertonic bladder.

E myogenic failure.

A 14-year-old boy with incontinence had posterior urethral valves resected as a neonate. The most likely etiology for his incontinence is:

E: "myogenic failure." is correct.

Adolescents with a history of valves may have one of several urodynamic patterns. In boys with incontinence, the most prevalent was poor contractility with resulting overflow incontinence. Although there may be elements of hyperreflexia or hypertonia, inadequate emptying due to myogenic failure is the most likely cause of his incontinence.

Holmdahl, G, Sillen, U, Hanson E, Hermansson G, Hjalmas K: Bladder dysfunction in boys with posterior urethral valves before and after puberty. J UROL 1996;155:694-698.

Nguyen HT, Peters CA: Long-term complications of posterior urethral valves. BRI J UROL 1999;83(3):23-28.

A 65-year-old diabetic man with a serum creatinine of 2.3 mg/dl is about to undergo a CT scan using a non-ionic contrast agent. Prevention of contrast-induced nephropathy is best achieved by prophylactic hydration and administration of:

A acetylcysteine.

B furosemide.

C diphenhydramine.

D mannitol.

E prednisone.

A 65-year-old diabetic man with a serum creatinine of 2.3 mg/dl is about to undergo a CT scan using a non-ionic contrast agent. Prevention of contrast-induced nephropathy is best achieved by prophylactic hydration and administration of:

A: "acetylcysteine." is correct.

Prophylactic oral administration of the antioxidant acetylcystine, along with hydration, prevents the reduction in renal function induced by non-ionic, low osmolar contrast agents in patients with chronic renal insufficiency. Although mannitol may be beneficial, it is not as effective as acetylcysteine.

Tepel M, Van der Grit M, Schwarfield C, et al: Prevention of radiographic contrast agent-induced reductions in renal function by acetylcystine. NEJM 2000;343:180-184.

For patients with a 1 cm proximal ureteral stone, placement of an internal stent at the time of SWL will result in:

A a higher stone free rate.

B a lower complication rate.

C less hematuria.

D increased irritative voiding symptoms.

E reduced analgesic requirements.

For patients with a 1 cm proximal ureteral stone, placement of an internal stent at the time of SWL will result in:

D: "increased irritative voiding symptoms." is correct.

A randomized study demonstrated that stent placement at the time of SWL in patients with 1-2 cm solitary renal stones or proximal ureteral calculi less than 2 cm did not improve stone free or retreatment rates, lessen pain or hematuria. However, stent insertion was associated with an increase in irritative voiding symptoms.

Chandhoke PS, Barqawi AZ, Wernecke C, Chee-awai RA: A randomized trial of ureteral stents for extracorporeal shock wave lithotripsy of solitary kidney or proximal ureteral stones. J UROL 2002;167:1981-1983.

A 60-year-old woman complains of peristomal pain three days after undergoing a radical cystectomy and ileal conduit for bladder cancer. A 16 Fr. straight catheter is in the conduit; ureteral stents were not utilized. Her stoma was initially dusky, and is now black. The next step is:

A remove conduit catheter.

B loopogram.

C bilateral percutaneous nephrostomies.

D loop endoscopy.

E observation.

A 60-year-old woman complains of peristomal pain three days after undergoing a radical cystectomy and ileal conduit for bladder cancer. A 16 Fr. straight catheter is in the conduit; ureteral stents were not utilized. Her stoma was initially dusky, and is now black. The next step is:

D: "loop endoscopy." is correct.

Vascular thrombosis of the intestinal conduit is often related to excessive tension in the mesentery of the chosen bowel segment, a hematoma in the mesentery, or inadvertent ligation of the major blood supply to the conduit. This can lead to necrosis of the stoma or the entire bowel segment. The stoma may normally appear dusky at the termination of the procedure. However, a pink to red appearance of the stoma should develop over the ensuing hours or days. If the stoma worsens in color, the patient develops pain around the stoma, or an obvious urine leak occurs, stomal necrosis is likely. This problem should be corrected on a semi-emergent basis. Loop endoscopy should be performed to determine the extent of ischemia. Pressure from a 16 Fr Foley catheter is very unlikely to cause significant ischemia.

McDougal WS: Use of intestinal segments and urinary diversion, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, vol 3, chap 100, pp 3121-3158.

Calcium reabsorption induced by parathyroid hormone and Vitamin D occurs primarily in the:

A proximal convoluted tubule.

B collecting duct.

C thick ascending loop of Henle.

D distal tubule.

E proximal straight tubule.

Calcium reabsorption induced by parathyroid hormone and Vitamin D occurs primarily in the:

D: "distal tubule." is correct.

The site of action of both PTH and Vitamin D is on the distal tubule. Calcium resorption occurs in this region. Calcium is reabsorbed in the proximal convoluted tubule as well, but not under the influence of PTH.

Blumenfeld JD, Vaughan ED Jr: Renal physiology, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, vol 1, chap 7, pp 281-285.

A 49-year-old man had a lesion of the glans penis, biopsy of which revealed squamous cell carcinoma in situ. Physical examination now shows a well-healed scar and no inguinal adenopathy. The next step is:

A partial penectomy.

B laser fulguration of site of resection.

C excision of previous scar.

D total penectomy.

E observation.

A 49-year-old man had a lesion of the glans penis, biopsy of which revealed squamous cell carcinoma in situ. Physical examination now shows a well-healed scar and no inguinal adenopathy. The next step is:

C: "excision of previous scar." is correct.

The lesion may have been cured by the first procedure and therefore options a, b, and d are too aggressive based on this information. Observation has the attendant risk of recurrence and the subsequent need for a more aggressive procedure.

Lynch DF Jr, Schellhammer PF: Tumors of the penis, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, vol 3, chap 79, p 2453.

A 12-year-old girl has recurrent UTIs. An ultrasound shows a large, thickened bladder wall and bilateral hydronephrosis. A VCUG shows no reflux and a large PVR. The next step is:

A. MAG-3 renogram.

B. spinal MRI scan.

C. urethral pressure profile.

D. sphincter EMG during voiding.

E. cystoscopy and urethral dilation.

A 12-year-old girl has recurrent UTIs. An ultrasound shows a large, thickened bladder wall and bilateral hydronephrosis. A VCUG shows no reflux and a large PVR. The next step is:

D: "sphincter EMG during voiding." is correct.

Dysfunctional voiding can be quite severe in its consequences. Reflux can be associated and/or secondary to this problem and corrective surgery may fail if the voiding disorder is not primarily addressed.

Bauer SB: Neurogenic dysfunction of the lower urinary tract in children, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, vol 2, chap 65, pp 2019-2053.

Non-adrenergic, non-cholinergic contraction of detrusor smooth muscle is mediated primarily by:

A nitric oxide.

B vasoactive intestinal polypeptide (VIP).

C adenosine triphosphate (ATP).

D cyclic guanosine monophosphate (cGMP).

E enkephalins.

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Non-adrenergic, non-cholinergic contraction of detrusor smooth muscle is mediated primarily by:

C: "adenosine triphosphate (ATP)." is correct.

Postganglionic parsympathetic neurons release acetylcholine which activates muscarinic cholinergic (primarily M2 and M3) on the detrusor and elicits a contractile response. Preganglionic and postganglionic neurons also contain purines such as adenosine triphosphate (ATP) and adenosine which produce depolarization of bladder smooth muscle and contraction by stimulation of purinergic receptors. Nitric oxide, cGMP, VIP, and enkephalins either have no effect on bladder contraction or are inhibitory.

Steers WD: Physiology and pharmacology of the bladder and urethra, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, vol 1, chap 26, pp 881-888.

Placement of a ureteral stent in an unobstructed system will result in:

A increase in ureteral contractility.

B decrease in ureteral contractility.

C atrophy of the ureteral mucosa.

D atrophy of the ureteral smooth muscle.

E decrease in intrapelvic pressure.

Placement of a ureteral stent in an unobstructed system will result in:

B: "decrease in ureteral contractility." is correct.

A number of changes occur after placement of a ureteral stent including: hyperplasia and inflammation of the urothelium, smooth muscle hypertrophy, increased intrapelvic pressure, a decrease in ureteral contractility and vesicorenal reflux.

Bailey D: Histological changes associated with stenting the urinary tract, in Yachia D (ed): STENTING THE URINARY SYSTEM. St. Louis, Mosby Year Book, 1998, chap 58, pp 415-419.

During the first three years of life, hymenal morphology demonstrates progression of its:

A redundancy.

B external ridging.

C notching.

D annular configuration.

E crescentic configuration.

During the first three years of life, hymenal morphology demonstrates progression of its:

E: "crescentic configuration." is correct.

Hymenal development during the first 3 years of life demonstrates decreased notching and the prominence of external ridges as the hymenal tissue turns inward and becomes less redundant. The hymenal configuration in the majority of children shifts from annular, with tissue surrounding the vaginal orifice 360 degrees, to crescenteric, with an absence of tissue anteriorly. Physicians should be familiar with these effects of normal aging on the hymenal appearance so they can differentiate normal development from post-traumatic or infectious changes.

Berenson AB: A longitudinal study of hymenal morphology in the first three years of life. PED 1995;95:490-496.

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The co-administration of which of these drugs is most likely to prolong the half-life of sildenafil:

A trimethoprim-sulfamethoxazole.

B levofloxacin.

C terazosin.

D ritonavir.

E omeprazole.

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The co-administration of which of these drugs is most likely to prolong the half-life of sildenafil:

D: "ritonavir." is correct.

Sildenafil is primarily metabolized by the cytochrome P450 isozyme 3A4. Ritonavir in particular is a potent inhibitor of multiple cytochromes and causes elevated levels of sildenafil to persist for up to 48 hours.

Morales A, Gingill C, Collins M, et al: Clinical safety of sildenafil in the treatment of erectile dysfunction. INT J IMP RES 1998;10:69-74.

The most frequent complication associated with an intestinal anastomosis using surgical staples is:

A staple line bleeding.

B anastomotic leak.

C bowel obstruction.

D mesenteric hematoma.

E wound infection.

The most frequent complication associated with an intestinal anastomosis using surgical staples is:

A: "staple line bleeding." is correct.

Because stapling devices evert the suture line and do not crush tissue, bleeding at the anastomosis is not uncommon and occasionally may require light electrocoagulation. All other complications listed are uncommon and do not occur in any different frequency than with hand-sewn anastomoses.

McDougal WS: Use of intestinal segments and urinary diversion, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, vol 3, chap 100, pp 3121-3158.

A 15-year-old boy is undergoing revision of a colonic pull-through. During the operation, the left spermatic vessels are ligated and transected above the iliac vessels. The vas deferens is intact. Both testes are palpable in the scrotum. The next step is:

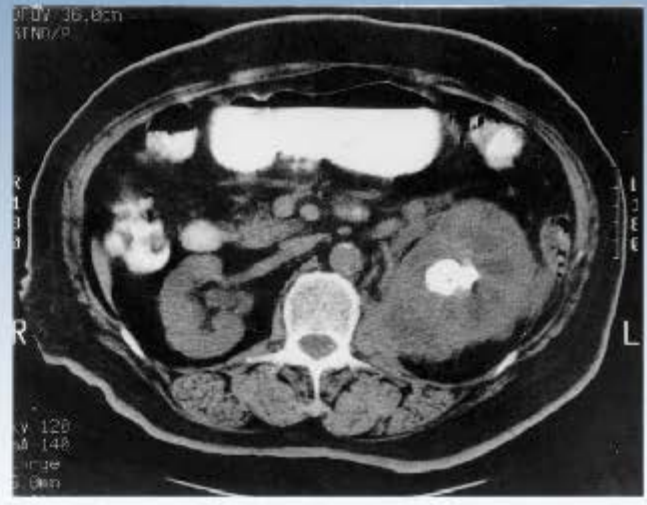
A observation.

B intraoperative Doppler ultrasound of testis.

C microvascular reanastomosis of the spermatic vessels.

D epigastric arterial revascularization.

E left orchiectomy.



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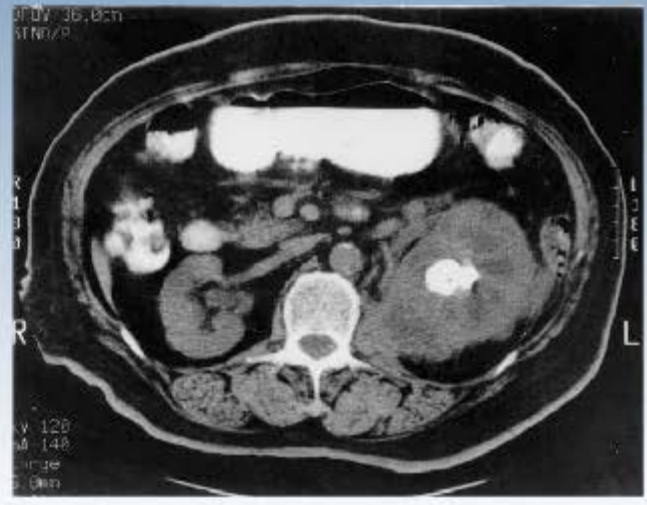

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A: "observation." is correct.

The blood supply to the testis is primarily from the spermatic vessels and the deferential artery. In children with abdominal undescended testes, primary orchidopexy after ligation of the spermatic vessels is associated with a 50% rate of testicular atrophy. However, if the testis is left in-situ after spermatic artery ligation, blood flow will return to normal within 30 days due to improved collateral blood flow via the deferential artery. Therefore, no treatment is needed in this patient. A testicular scan will likely demonstrate decreased flow, but the findings will not alter management.

Rozanski T, Bloom DA, Colodny A: Surgery of the scrotum and testis in children, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, chap 73, pp 2193-2199.

A 38-year-old man with Klinefelter syndrome has breast enlargement and weight loss. The next step is:

A mammography.

B abdominal and pelvic CT scan.

C scrotal ultrasound.

D serum LH level.

E serum prolactin level.

A 38-year-old man with Klinefelter syndrome has breast enlargement and weight loss. The next step is:

A: "mammography." is correct.

Breast cancer is 20 times more frequent in men with Kleinfelter syndrome than in normals. Although routine screening mammography is not warranted, this patient has increasing gynecomastia and weight loss. The most critical condition to rule out is breast cancer.

Hasle H, Mellemgaard A, Nielsen J, Hansen J: Cancer incidence in men with Kleinfelter's syndrome. BRI J CA 1995;71:416-420.

A ten-day-old infant boy is hospitalized for failure to thrive. After his umbilical stump fell off, fluid has intermittently drained from the umbilicus. The umbilical fluid has a creatinine of 10 mg/dl and grows > 100,000 cfu/ml of E. coli. The next step should be antibiotics and:

A observation.

B cannulation and injection of contrast.

C VCUG.

D closure of fistula.

E urethral catheter drainage.

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C: "VCUG." is correct.

The differential diagnosis of a wet umbilicus in the infant includes patent urachus, omphalitis, simple granulation of the healing stump, patent vitelline or omphalomesenteric duct, infected umbilical vessel, and external urachal sinus. The finding of a urinary creatinine level in the fluid draining from the umbilical stump suggests a patent urachus. While probing the urachal tract may aid in diagnosis, a VCUG should confirm the diagnosis and fully evaluate the lesion and any associated bladder outlet obstruction.

Gearhart JP, Jeffs RD: Exstrophy of the bladder, epispadias, and other bladder anomalies, in Walsh PC, Retik AB, Stamey TA, Vaughan ED Jr (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, pp 1939-1990.

Hypertension following renal parenchymal injury usually resolves within:

A 10 days.

B 6 weeks.

C 3 months.

D 6 months.

E 1 year.

Hypertension following renal parenchymal injury usually resolves within:

B: "6 weeks." is correct.

Hypertension following renal parenchymal injury usually resolves within 6 weeks from the time of injury.

Sagalowsky AI, Peters PC: Genitourinary trauma, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, vol 3, chap 99, p 3100.

A 65-year-old diabetic man develops erectile dysfunction following traumatic urethral disruption. The corporal artery blood velocities on duplex Doppler study are 8 cc/sec after a 20 microgram injection of prostaglandin E1. The most likely cause of the erectile dysfunction is:

A psychogenic.

B pudendal artery injury.

C pudendal nerve injury.

D diabetic neuropathy.

E arterio-venous malformation.

A 65-year-old diabetic man develops erectile dysfunction following traumatic urethral disruption. The corporal artery blood velocities on duplex Doppler study are 8 cc/sec after a 20 microgram injection of prostaglandin E1. The most likely cause of the erectile dysfunction is:

B: "pudendal artery injury." is correct.

The most likely etiology for erectile dysfunction following traumatic urethral disruption is injury to the cavernous nerves. The pudendal nerve provides sensory and motor innervation to the penis and bulbocavernosus muscles, respectively, and is not injured at the time of urethral disruption. The penile Doppler demonstrates inadequate blood flow increase to the penis in response to prostaglandin consistent with pudendal artery injury. The patient was potent prior to the injury, and therefore diabetes is not a likely etiology.

Benson GS, Boileau MA: The penis: Sexual function and dysfunction, in Gillenwater JY, Grayhack JT, Howards SS, Duckett JW (eds): ADULT AND PEDIATRIC UROLOGY. St. Louis, Mosby Year Book, 1996, pp 1951-1996.

A 47-year-old calcium oxalate stone former wishes to go on a high animal protein, low carbohydrate, weight loss diet. The following changes in urinary chemistries are expected:

| | Calcium | Uric Acid | Citrate | pH |
|---|---|---|---|---|
| A | ↑ | ↑ | ↓ | ↑ |
| B | ↑ | ↑ | ↓ | ↓ |
| C | ↑ | ↓ | ↑ | ↓ |
| D | ↓ | ↓ | ↓ | ↑ |
| E | ↓ | ↑ | ↓ | ↓ |

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B: " ↑ ↑ ↓ ↓" is correct.

A number of metabolic changes occur with increased consumption of animal protein that are potentially deleterious for stone formers. These include increased calcium and uric acid excretion, decreased citrate excretion, and lowering of urinary pH.

Assimos DG, Holmes RP: Role of diet in the therapy of urolithiasis. UROL CLIN N AM 2000;May:255-268.

The urodynamic evaluation of a six-year-old child with diurnal wetting without infection will usually demonstrate:

A. a small hypertonic bladder.

B. detrusor hypocontractility.

C. abnormal external sphincter activity on filling.

D. abnormal external sphincter activity during voiding.

E. normal external sphincter activity on filling and voiding.

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تم حفظ الصورة!

The urodynamic evaluation of a six-year-old child with diurnal wetting without infection will usually demonstrate:

E: "normal external sphincter activity on filling and voiding." is correct.

The urodynamics of a child who wets day and night and who has infections will usually show a small capacity bladder with increased intravesical pressure. During filling, these patients will often demonstrate increased sphincteric EMG activity, and the EMG may not be completely quiescent during early voiding. In contrast, children with enuresis who do not have infection have the normal external sphincter response during filling and voiding.

Bauer SB, Retik AB, Colodny AH, et al: The unstable bladder of childhood. UROL CLIN N AM 1980;7:321-336.

Bauer SB: Neurogenic dysfunction of the lower urinary tract in children, in Walsh PC, Retik AB, Stamey TA, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, pp 2040-2048.

A two-month-old, uncircumcised boy has an E. coli UTI with a temperature of 104 degrees Fahrenheit. Physical exam is normal except for a phimotic prepuce. He responds well to antibiotics. The next step is:

A circumcision.

B circumcision and cystoscopy.

C renal ultrasound.

D VCUG and ultrasound.

E DMSA renal scan.

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D: "VCUG and ultrasound." is correct.

While there is an association between UTI and being uncircumcised, this boy should have a formal evaluation of his urinary tract prior to any intervention for his prepuce. Phimosis is normal in neonates and does not necessarily indicate the cause of the UTI. The decision as to whether a circumcision should be performed should wait until his urinary tract has been evaluated with a VCUG and US.

Shortliffe, LMD: Urinary tract infections in infants and children, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, chap 57, pp 1681-1707.

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In-vitro fertilization and intracytoplasmic sperm injection is associated with which of the following birth defects:

A multicystic dysplastic kidneys.

B ureteral atresia.

C hypospadias.

D UPJ obstruction.

E vesico-ureteral reflux.

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In-vitro fertilization and intracytoplasmic sperm injection is associated with which of the following birth defects:

C: "hypospadias." is correct.

Assisted reproductive technology including in-vitro fertilization and intracytoplasmic sperm injection (ICSI) appears to double the risk of having a low birth weight, singleton delivery or a child with a major birth defect especially musculoskeletal or cardiovascular defects and hypospadias.

Hansen, M, Kurinczuk, JJ, Bower, C, Webb, S: The risk of major birth defects after intracytoplasmic sperm injection and in-vitro fertilization. NEJM 2002;346:725-730.

A 16-year-old girl with a neurogenic bladder remains incontinent despite an aggressive program of clean intermittent catheterization and anticholinergic medications. Videourodynamic evaluation demonstrates a flaccid, large capacity bladder and low urethral resistance. The best long-term management is continued intermittent catheterization and:

A. periurethral collagen injection.

B. bladder neck tubularization.

C. an artificial urinary sphincter.

D. a pubovaginal fascial sling.

E. a Mitrofanoff procedure.

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D: "a pubovaginal fascial sling." is correct.

The best treatment in this situation is the pubovaginal sling. An advantage of the sling procedure for postpubertal females is that the dissection between the urethra and the vagina can be performed transvaginally, an approach considered by many to be simpler than pelvic dissection required for placement of an artificial urinary sphincter. Bladder neck tubularization produces a significant reduction in bladder capacity and the frequent necessity for reoperations to correct problems with catheterization. Periurethral collagen injection can provide short-term improvement, however the long-term effectiveness remains open to question. A Mitrofanoff procedure will not solve the problem of low outlet resistance.

Elder JS: Surgery for incontinence: Sling and suspension procedures, in Gearhart JP, Rink RC, Mouriquand, PDE (eds): PEDIATRIC UROLOGY. Philadelphia, WB Saunders Co, 2001 chap 64, pp 995-1001.

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A 32-year-old man with decreased libido and erectile dysfunction has a serum testosterone of 100 ng/dl (normal 300-1000 ng/dl) and a prolactin of 150 ng/ml (normal 0-15 ng/ml). He has no visual field abnormalities, but an MRI scan demonstrates a 1 cm pituitary tumor. After three months of bromocriptine, his testosterone is 120 ng/dl, and he is still impotent despite normalization of his prolactin and a slight reduction in the size of the tumor. The most appropriate treatment is:

A increase bromocriptine.

B testosterone supplementation.

C transsphenoidal pituitary surgery.

D pituitary radiation.

E hCG.

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B: "testosterone supplementation." is correct.

Many male patients with pituitary macroadenomas require testosterone replacement in addition to bromocriptine. The prolactin secreting tumor lowers LH secretion, probably by destruction of the pituitary cells which make LH. Higher doses of bromocriptine are not indicated if the prolactin is normal. Transsphenoidal surgery or pituitary radiation are not indicated if bromocriptine controls the tumor. Human chorionic gonadotropin would be an appropriate option if the patient was interested in fertility. However, in a single man whose chief complaint is impotence, testosterone replacement is easier to administer and less costly.

McVary KT: Erectile dysfunction, in Braunwald E, Fauci AS, Kasper DL, et al (eds): HARRISON'S PRINCIPLES OF INTERNAL MEDICINE, ed 15. New York, McGraw-Hill, 2001, chap 51, p 191.

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Anosmia in an infertile man is usually associated with:

A a pituitary tumor.

B Kartagener syndrome.

C Kallmann syndrome.

D Young syndrome.

E immotile cilia syndrome.

Anosmia in an infertile man is usually associated with:

C: "Kallmann syndrome." is correct.

Anosmia is a characteristic component of hypogonadotropic hypogonadism (Kallman syndrome). These patients may have a variety of congenital midline defects. Patients with the immobile cilia syndrome and Kartagener syndrome have immobile sperm and immobile respiratory cilia. Young syndrome consists of azoospermia caused by epididymal obstruction, secondary to viscous secretions and chronic respiratory infections, but anosmia is not a characteristic. Pituitary tumors are more likely to cause visual rather than olfactory disturbances.

Whitcomb RW, Crowley WF Jr: Male hypogonadotropichypogonadism. ENDOCRIN METAB CLIN N AM 1993;22(1):125-143.

Hendry WF, A'Hern RP, Cole PJ: Was Young's syndrome caused by exposure to mercury in childhood? BRI J MED 1993;307(6919):1579-1582.

A seven-year-old girl with myelomeningocele has bilateral hydronephrosis and urinary incontinence despite clean intermittent catheterization and oxybutynin 5 mg TID. CMG reveals a pressure of 35 cm H2O at a volume of 100 ml, and a detrusor leak point pressure of 54 cm H2O at a volume of 120 ml. The next step is:

E: "enterocystoplasty." is correct.

This patient has an extremely small capacity bladder with poor compliance. The patient is on maximal anticholinergic therapy. At this point urethral dilation or vesicostomy would not be the best choice. This is an older child and one should seek an alternative that would correct the dangerously high pressures, but also provide social continence. Enterocystoplasty would be the best option for this patient. Given that this patient has bilateral hydronephrosis, urgent attention is needed. Bladder augmentation will provide a low pressure reservoir with resolution of the hydronephrosis.

McGuire EJ, Bloom DA, Ritchey ML: Myelodysplasia, in: Blaivas J, Chancellor M (eds): PROB IN UROL 1993;7(1):1-14.

Which treatment of idiopathic priapism is most frequently associated with gangrene of the penis:

A bilateral pudendal embolization.

B pressure dressings.

C exchange transfusion.

D cavernosal-saphenous vein shunt.

E needle irrigation of corpora.

Which treatment of idiopathic priapism is most frequently associated with gangrene of the penis:

B: "pressure dressings." is correct.

Tourniquet-like dressings can cause penile ischemia resulting in gangrene. Surprisingly, gangrene is not reported after bilateral pudendal embolization.

Benson GS, Boileau MA: The penis: Sexual function and dysfunction, in Gillenwater J, Grayhack JT, Howards SS, Duckett JW (eds): ADULT AND PEDIATRIC UROLOGY. St. Louis, Mosby Year Book, 1996, pp 1951-1992.

A 40-year-old man underwent a vasectomy ten years earlier. He undergoes an end-to-end vasoepididymostomy, and sperm are noted in the epididymis. Six months after this procedure, semen analysis reveals azoospermia. The next step is:

A. end-to-end vasoepididymostomy.

B. epididymal sperm aspiration and IVF.

C. testis biopsy.

D. repeat semen analysis in three months.

E. donor insemination.

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D: "repeat semen analysis in three months." is correct.

Delayed return of sperm in the ejaculate may occur after vasoepididymostomy. Men without sperm in the epididymal fluid at the time of the anastomosis will never recover sperm in the ejaculate. Forty-one percent of patients will have delayed appearance of sperm in the ejaculate which can take up to one year or longer. The ultimate mean sperm count will be similar in those with immediate and delayed return of sperm. Delayed anastomotic obstruction is also the same in both groups.

Jarow JP, Sigman M, Buch JP, Oates RD: Delayed appearance of sperm after end-to-side vasoepididymostomy. J UROL 1995;153:1156.

A six-year-old boy with a history of imperforate anus has persistent diurnal urinary incontinence. Evaluation includes an MRI scan showing the conus medullaris at the L-2 level. A CMG shows no postvoid residual, a flat filling curve with high volume detrusor instability, and normal voiding pressures. These findings suggest:

A tethering of the spinal cord.

B vesico-colonic fistula.

C detrusor-sphincteric dyssynergia.

D no significant uropathology.

E intrinsic sphincteric deficiency.

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D: "no significant uropathology." is correct.

Imperforate anus is accompanied by a high incidence of bony sacral and neurological anomalies that may lead to a neuropathic bladder. On the other hand, diurnal and nocturnal enuresis are common in six year olds. This youngster can completely empty the bladder volitionally; i.e., no postvoid residual. There is no evidence of spinal cord tethering in that the conus medullaris is in the normal adult position one expects by five years of age (upper border of L-2). A vesico-colonic fistula would be unlikely. The urodynamic study is not suggestive of detrusor-sphincter dyssynergia, and the detrusor instability at high volume is unlikely to suggest any serious underlying pathology.

Bauer SB: Neurogenic dysfunction of the lower urinary tract in children, in: Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, vol 2, chap 65, pp 2019-2053.

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A 14-year-old girl has primary amenorrhea. She is in the 25th percentile for height and has a webbed neck. Karyotype is 45 XO. The most likely genitourinary abnormality is:

A renal agenesis.

B horseshoe kidney.

C vesicoureteral reflux.

D UPJ obstruction.

E vaginal agenesis.

A 14-year-old girl has primary amenorrhea. She is in the 25th percentile for height and has a webbed neck. Karyotype is 45 XO. The most likely genitourinary abnormality is:

B: "horseshoe kidney." is correct.

This patient has Turner syndrome. These individuals can be recognized by their typical physical findings including short stature, webbed neck and shield chest. Individuals with the 45 XO karyotype usually exhibit all the stigmata of the syndrome. Patients with the 46 XY karyotype are at increased risk for dysgerminoma and gonadoblastoma and require gonadectomy. Horseshoe kidney occurs with increased prevalence in patients with Turner syndrome and a renal ultrasound is warranted.

Forest MG: Ambiguous genitalia/intersex: Endocrine aspects, in Gearhart JP, Rink R, Mouriquand PDE (eds): PEDIATRIC UROLOGY. Philadelphia, WB Saunders Co, 2001, pp 623-658.

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A 65-year-old man has lethargy, malaise, and markedly diminished urinary stream. After urethral catheterization, he experiences a postobstructive diuresis that is managed by appropriate fluid replacement. The urine output is 1,500 cc daily. The serum creatinine and BUN are 6.8 mg/dl and 95 mg/dl respectively, and are unchanged three days later. The next step is:

A continued observation.

B retrograde pyelography.

C dialysis.

D renal ultrasound.

E increased fluid replacement.

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D: "renal ultrasound." is correct.

In patients with urinary obstruction and impaired renal function, postobstructive diuresis is not unusual. Typically, urinary catheter drainage produces improvement in the blood levels of creatinine, urea nitrogen, and electrolytes to normal levels. If significant improvement does not occur, one must first consider inadequate drainage of the upper urinary tract because the bladder is poorly drained (poorly functioning catheter) or because of supravesical obstruction. The latter should be evaluated using renal ultrasound. No data to suggest the need for immediate dialysis in this patient is provided.

Gulmi FA, Felsen D, Vaughan ED Jr: Pathophysiology of urinary tract obstruction, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 8. Philadelphia, WB Saunders Co, 2002, chap 12, pp 411-462.

During erection, blood volume and pressure in the corpora cavernosa increase due to:

A contractile activity of polsters at arteriovenous junctions.

B shunting of arterial blood into the lacunar veins.

C increased arterial flow in the dorsal penile artery.

D increased arterial flow and passive venous compression.

E arteriolar dilation and active venous compression.

During erection, blood volume and pressure in the corpora cavernosa increase due to:

D: "increased arterial flow and passive venous compression." is correct.

Penile erection occurs in response to excitatory parasympathetic outflow (S2-S4) which produces vasodilation of internal pudendal and cavernosal arteries. Arterial flow increases prior to a rise in intracavernous pressure. Combined with active relaxation of trabecular smooth muscle, venous channels are passively closed, allowing tumescence. Prior theories postulating anatomical structures called polsters have been shown to be merely atherosclerotic plaques or artifacts.

Benson GS, Boileau MA: The penis: Sexual function and dysfunction, in Gillenwater JY, Grayhack JT, Howards SS, Duckett JW (eds): ADULT AND PEDIATRIC UROLOGY. St. Louis, Mosby Year Book, 1996, pp 1951-1996.

A 26-year-old-man with C6 level quadriplegia managed with condom catheter drainage undergoes a urodynamic study. During bladder filling, he suddenly develops a pounding headache, profuse facial flushing, and sweating. His systolic blood pressure is 240 mm Hg. The next step is:

A oral nifedipine.

B drain the bladder.

C intravenous chlorpromazine.

D oral terazosin.

E reduce rate of infusion.

During erection, blood volume and pressure in the corpora cavernosa increase due to:

D: "increased arterial flow and passive venous compression." is correct.

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A 50-year-old woman undergoes radical nephrectomy. Pathology reveals collecting duct carcinoma with invasion of the perinephric fat and microscopic involvement of one hilar node. Her metastatic evaluation is otherwise negative. The next step is:

A observation.

B radiation therapy to the flank.

C cisplatin and 5-FU.

D interleukin-2 and alpha-interferon.

E M-VAC chemotherapy.

A 50-year-old woman undergoes radical nephrectomy. Pathology reveals collecting duct carcinoma with invasion of the perinephric fat and microscopic involvement of one hilar node. Her metastatic evaluation is otherwise negative. The next step is:

A: "observation." is correct.

Collecting duct carcinoma is an unusual and aggressive type of renal tumor. While this patient is at risk for disease recurrence and progression, she is at this time without evidence of disease and no further therapy is indicated. There are no data that demonstrate efficacy of any form of adjuvant therapy.

Walther PJ: Uncommon neoplasms of the kidney, in Raghavan D, Scher HI, Leibel SA, Lange P (eds): PRINCIPLES AND PRACTICE OF GENITOURINARY ONCOLOGY. Philadelphia, Lippincott-Raven, 1997, chap 86, p 897.

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Classic features of prune-belly syndrome include dilated tortuous ureters, atretic anterior abdominal musculature, and undescended testes. In addition, there is usually hypoplasia of the:

A radius.

B tibia.

C prostate.

D vas deferens.

E epididymis.

Classic features of prune-belly syndrome include dilated tortuous ureters, atretic anterior abdominal musculature, and undescended testes. In addition, there is usually hypoplasia of the:

C: "prostate." is correct.

The prune-belly syndrome is characterized by the presence of a large dilated bladder associated with dilation in the area of the proximal urethra. This dilation is not due to outlet obstruction related to posterior urethral valves but is usually secondary to saccularization of the urethra due to a very small or hypoplastic prostate. It is important to recognize that children with prune-belly syndrome rarely have urethral valves.

Crankson S, Ahmed S: The prune belly syndrome. AUST N ZEAL J SUR 1992;62(7-12):916.

In a child with a febrile UTI, the antimicrobial drug that achieves therapeutic levels in the urine, but not in the tissue is:

A ampicillin.

B gentamicin.

C nitrofurantoin.

D trimethoprim.

E cephalexin.

In a child with a febrile UTI, the antimicrobial drug that achieves therapeutic levels in the urine, but not in the tissue is:

C: "nitrofurantoin." is correct.

It is important to treat children who are toxic from urinary tract infections with an antibiotic which achieves adequate blood and urine levels. All of the above antibiotics achieve adequate urine levels, but nitrofurantoin does not achieve adequate blood levels.

Brown MR, Cartwright PC, Snow BW: Common office problems in pediatric urology and gynecology. PED CLIN N AM 1997;44:1091-1115.

A 63-year-old man has left flank pain, gross hematuria, and a palpable left abdominal mass. He has lost 30 pounds in the last six months. CT scan reveals a 12 cm heterogenous left renal mass that involves the posterior abdominal wall and left mesocolon. Serum hematocrit is 27%. A bone scan reveals a sacral metastasis. The next step is:

A radiation to the left flank.

B systemic interleukin-2.

C palliative nephrectomy.

D diverting colostomy and radiation to the left flank.

E left renal angioinfarction.

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E: "left renal angioinfarction." is correct.

This patient has a symptomatic renal mass and a very poor prognosis. His poor performance status and bone metastases make it very unlikely that he will respond to therapy with biological modifiers. Percutaneous embolization of the mass should control the hematuria and also palliate his flank pain. Radiation therapy may provide some palliation but will not immediately control the hematuria. A diverting colostomy is not indicated unless obstruction develops and a palliative nephrectomy is likely to be excessively morbid in this patient with such a poor prognosis. Cytoreductive nephrectomy is not indicated before immunotherapy for patients with poor performance status and visceral metastases.

Nelson JB, Marshall FF: Surgical treatment of locally advanced renal cell carcinoma, in Vogelzang NJ, Scardino PT, Shipley WU, Coffey DS (eds): COMPREHENSIVE TEXTBOOK OF GENITOURINARY ONCOLOGY. Baltimore, Williams & Wilkins, 1996 p 230.

The diagnosis of testicular agenesis is confirmed by:

A absence of an ipsilateral kidney.

B absence of an ipsilateral vas deferens.

C blind ending testicular vessels.

D ipsilateral scrotal hypoplasia.

E ipsilateral müllerian structures.

The diagnosis of testicular agenesis is confirmed by:

E: "ipsilateral müllerian structures." is correct.

The key clinical sign indicating testicular agenesis rather than a vanished testis is the presence of ipsilateral mullerian structures. Testicular agenesis is much less common than the vanishing testis syndrome. True congenital absence of one testis is extremely rare and absence of both testes would result in a female phenotype.

Silver RI, Docimo SG: Cryptorchidism, in Gonzales ET, Bauer SB (eds): PEDIATRIC UROLOGY PRACTICE. Philadelphia, Lippincott Williams & Wilkins, 1999, chap 29, p 503.

Combined renal and liver transplantation is curative for which of the following:

A amyloidosis.

B primary hyperoxaluria.

C Alport syndrome.

D cystinosis.

E Fabry's disease.

Combined renal and liver transplantation is curative for which of the following:

B: "primary hyperoxaluria." is correct.

When performing renal transplantation, recurrence of the underlying renal disease which resulted in end stage renal disease is of significant concern. Renal amyloidosis, cystinosis, and Fabry's disease are all potentially treatable with renal transplantation despite significant recurrence. Alport syndrome is not associated with recurrence after transplantation. Simultaneous renal and liver transplantation will be curative in patients with end stage renal disease secondary to this process since the defect in oxalate metabolism occurs in the liver.

Barry JM: Renal transplantation, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, vol 1, chap 14, p 507.

A 57-year-old woman has an incidentally discovered 3.0 cm lower pole mass in the right kidney. On CT scanning the mass is heterogeneous, appears to extend beyond the capsule of the kidney, and enhances after administration of I.V. contrast. Most of the mass measures +70 to +80 Hounsfield units but there is a small region within the tumor that measures -80 Hounsfield units. The left kidney appears normal. Appropriate management at this time is:

A repeat CT scan in six months.

B selective angiographic embolization.

C laparoscopic cryoablation.

D lower pole partial nephrectomy.

E radical nephrectomy.

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A: "repeat CT scan in six months." is correct.

This patient has CT scan findings that are pathognomic of angiomyolipoma. Negative Hounsfield units confirm the presence of fat in this lesion, even though this can only be observed in a small region. No treatment is indicated in an asymptomatic patient with a relatively small angiomyolipoma but follow up with periodic CT scans is appropriate. Extension into the perinephric fat and even lymph node involvement can be found in association with angiomyolipoma and is thought to represent a secondary site of origin rather than a metastatic lesion. The presence of fat on CT scan alone is diagnostic.

Belldegrun A, deKernion JB: Renal tumors, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, vol 3, chap 76, pp 2285-2292.

A 24-hour-old neonate has a left scrotal mass which does not transilluminate. The most likely diagnosis is:

A extravaginal torsion of the spermatic cord.

B intravaginal torsion of the spermatic cord.

C incarcerated hernia.

D endodermal sinus (yolk sac) tumor.

E torsion of a testicular appendage.

A 24-hour-old neonate has a left scrotal mass which does not transilluminate. The most likely diagnosis is:

A: "extravaginal torsion of the spermatic cord." is correct.

Neonatal torsion usually involves the entire spermatic cord and its tunics and is extravaginal, whereas torsion of the testicle in older children and young adults is intravaginal. Extravaginal torsion is an in-utero or perinatal event because the testicular tunics are loosely attached to the scrotum at this time of development. These attachments form quickly and, therefore, extravaginal torsion becomes unlikely beyond the newborn period. Controversy exists as to whether the opposite side should be pexed at the same time.

Rabinowitz R, Hulbert WC Jr: Acute scrotal swelling. UROL CLIN N AM 1995;22:101-105.

A 20-year-old man has recurrent gross hematuria and left flank pain related to exercise. Urinalysis reveals microhematuria, rare RBC casts, and 2+ proteinuria. Renal ultrasound is normal. The study most likely to be diagnostic is:

A IVP.

B diuretic renography.

C renal angiography.

D ureteroscopy.

E renal biopsy.

A 20-year-old man has recurrent gross hematuria and left flank pain related to exercise. Urinalysis reveals microhematuria, rare RBC casts, and 2+ proteinuria. Renal ultrasound is normal. The study most likely to be diagnostic is:

E: "renal biopsy." is correct.

Recurrent gross hematuria in young adults occurring after an upper respiratory infection or exercise is the typical presentation of IgA glomerulonephritis (Berger's disease). Back pain and renal colic due to clots may be associated with the hematuria which can persist for days or weeks and may recur. Though the course is chronic, young patients generally have a good prognosis. While renal insufficiency develops in approximately 25% of patients, a poor prognosis is more likely in those with older age, heavy proteinuria, hypertension or abnormal renal function at presentation. The underlying pathology evident on renal biopsy is proliferative and confined mostly to mesangial cells. These changes are usually limited to either some glomeruli or lobular segments of a glomerulus. Though deposits of IgA and IgG may be present on biopsy, these findings are not pathognomonic of the disease as mesangial deposits are found in other forms of glomerulonephritis. The presentation is classic for IgA nephropathy.

Brendler CB: Evaluation of the urologic patient, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, vol 1, chap 4, pp 147-149.

The parameter most predictive of a response to immunotherapy in patients with metastatic renal cell carcinoma is:

A performance status.

B pulmonary metastases.

C prior nephrectomy.

D hematocrit.

E local recurrence after nephrectomy.

The parameter most predictive of a response to immunotherapy in patients with metastatic renal cell carcinoma is:

A: "performance status." is correct.

Mani et al. conducted a retrospective study of 84 patients with recurrent or metastatic renal cell carcinoma treated with biologic response modifiers. Multivariate analysis of prognostic factors in this patient population indicated that ECOG performance status, sarcomatoid histology and bone metastases were the most significant poor prognostic indicators. Other factors were less significant after adjusting for performance status. A patient's performance status prior to biologic response modifier therapy appears to be the most important predictor of response to treatment. Canobbio et al. also evaluated prognostic factors in 73 patients treated in a variety of phase II trials with Interferon-alpha and/or Interleukin-2. Using a multivariate analysis technique they also identified ECOG performance status and number of metastatic sites as the most important prognostic factors for survival.

Mani S, Todd MB, Katz K, Poo WJ: Prognostic factors for survival in patients with metastatic renal cancer treated with biologic response modifiers. J UROL 1995;154(1):35-40.

Canobbio L, Rubagotti A, Miglietta L, Cannata D: Prognostic factors for survival in patients with advanced renal cell carcinoma treated with interleukin-2 and interferon-alpha. J CANCER RES CLIN ONC 1995;121(12):753-756.

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As a part of normal renal function, most of the filtered solutes and water are returned to the systemic circulation by:

A proximal tubular reabsorption.

B proximal tubular secretion.

C distal tubular secretion.

D the countercurrent mechanism.

E distal tubular reabsorption.

As a part of normal renal function, most of the filtered solutes and water are returned to the systemic circulation by:

A: "proximal tubular reabsorption." is correct.

The normal GFR averages 130-180 l/day, a volume sixty times that of plasma volume. Therefore, most filtered solutes and water must be returned to the circulation. Tubular reabsorption accomplishes this phenomenon - mainly in the proximal tubule and then the loop of Henle.

Rose BD, Rennke HG: RENAL PATHOPHYSIOLOGY - THE ESSENTIALS. Baltimore, Williams & Wilkins, 1994, p 2.

The renal arterial disease associated with stable renal function to the affected kidney is:

A atherosclerosis.

B intimal hyperplasia.

C fibromuscular hyperplasia.

D medial fibroplasia.

E perimedial fibroplasia.

The renal arterial disease associated with stable renal function to the affected kidney is:

D: "medial fibroplasia." is correct.

Medial fibroplasia is the most common form of fibromuscular renal artery disease. It typically occurs in women between 30-50 year of age. It is associated predominately with hypertension and is rarely a cause of progressive renal ischemic atrophy. All other diseases listed are associated with progressive disease that can culminate in renal loss.

Sosa RE, Vaughan ED Jr: Renovascular hypertension, in Gillenwater JY, Grayhack JT, Howards SS, Duckett JW (eds): ADULT AND PEDIATRIC UROLOGY, ed 3. St. Louis, Mosby Year Book, 1996, chap 23, pp 1069-1122.

Deletions or mutations on chromosome 3 are most common in which histologic subtype of renal carcinoma:

A clear cell.

B chromophobe.

C collecting duct.

D medullary cell.

E papillary.

Deletions or mutations on chromosome 3 are most common in which histologic subtype of renal carcinoma:

A: "clear cell." is correct.

Genetic alterations on chromosome 3 are common in the garden variety clear cell variant of renal cell carcinoma but are uncommonly found in the other histologic variants, suggesting distinct pathways to tumorigenesis.

Belldegrun A, deKernion JB: Renal tumors, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, vol 3, chap 76, p 2293.

A 65-year-old man has chronic urinary retention associated with pedal edema. His BUN is 75 mg/dl. He is catheterized and a brisk diuresis of 500 ml/hr ensues. Forty-eight hours later the BUN is normal and the ankle edema is gone, but the diuresis persists. The probable cause of the persistent diuresis is:

A overload of fluid prior to relief of the obstruction.

B increased urea content in the urine.

C failure to decompress the bladder slowly.

D abnormal ADH secretion.

E decreased tubular sodium reabsorption.

A 65-year-old man has chronic urinary retention associated with pedal edema. His BUN is 75 mg/dl. He is catheterized and a brisk diuresis of 500 ml/hr ensues. Forty-eight hours later the BUN is normal and the ankle edema is gone, but the diuresis persists. The probable cause of the persistent diuresis is:

E: "decreased tubular sodium reabsorption." is correct.

Although early diuresis after relief of obstruction may be due to solute and water overload, in this instance the diuresis persists. This sodium-losing nephropathy is due to impaired tubular reabsorption of sodium.

Sokoloff MH, Michel K, Smith RB: Complication of transurethral resection of the prostate in, Taneja SS, Smith RB, Ehrlich RM (eds): COMPLICATIONS OF UROLOGIC SURGERY: PREVENTION AND MANAGEMENT, ed 3. Philadelphia, WB Saunders Co, 2001, chap 19, p 232.

A 28-year-old woman has headaches and blurred vision. Physical exam reveals bipedal edema and an S3 gallop. Her blood pressure is 190/80 mm Hg. Urinalysis shows 10-20 RBC/hpf. Serum creatinine is 1.2 mg/dl. Abdominal exam reveals a right flank mass. The most likely diagnosis is:

A polycystic kidney.

B adrenal hemorrhage.

C renal artery aneurysm.

D renal arteriovenous fistula.

E renal artery dissection.

A 28-year-old woman has headaches and blurred vision. Physical exam reveals bipedal edema and an S3 gallop. Her blood pressure is 190/80 mm Hg. Urinalysis shows 10-20 RBC/hpf. Serum creatinine is 1.2 mg/dl. Abdominal exam reveals a right flank mass. The most likely diagnosis is:

D: "renal arteriovenous fistula." is correct.

The presentation of a young woman with hypertension and wide pulse pressure, microscopic hematuria, flank mass, and congestive heart failure should immediately raise the suspicion of an AVF. While the other answers given could explain hypertension, the key in this patient is congestive heart failure which in young individuals would be associated with significant AVF and a renal mass.

Libertino JA: Renovascular surgery, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, vol 1, chap 12, pp 462-464.

The histologic variant of renal carcinoma that has the worst one-year survival is:

A renal medullary.

B clear cell with VHL syndrome.

C collecting duct.

D sarcomatoid.

E multifocal, hereditary papillary.

The histologic variant of renal carcinoma that has the worst one-year survival is:

A: "renal medullary." is correct.

Median survival for patients with medullary cell carcinoma, which is found primarily in patients with sickle cell trait, is only 4 months, as most of these tumors are unresponsive to therapy. Sarcomatoid and collecting duct variants of renal cell carcinoma are also associated with a particularly poor prognosis, but median survival in each case is significantly longer than in patients with renal medullary carcinoma, and long-term survivors have been reported with these histologic variants.

Davis CJ, Mostofi FK, Sesterhenn IA: Renal medullary carcinoma: the seventh sickle cell nephropathy. AM J SUR PATH 1995;19:1-11.

A 60-year-old man has a prolonged ileus for three weeks after radical nephrectomy complicated by wound infection. Hydration is maintained by intravenous fluids. Serum sodium, potassium, bicarbonate, chloride, and creatinine are normal. The patient develops neuromuscular irritability, tetany, and behavioral disturbances. The cause of these symptoms is most likely:

B: "hypomagnesemia." is correct.

Prolonged parenteral fluid and electrolyte therapy which doesn't include magnesium can result in significant depletion of this electrolyte. The symptoms of hypomagnesemia include neuromuscular irritability and disturbed cerebration. Any patient maintained solely on prolonged intravenous fluids should have serum magnesium levels determined, particularly if he fails to improve. Electrolyte replacement should include appropriate amounts of magnesium.

Agus ZS: Hypomagnesemia. J AM SOC NEPHROL 1998;10:1616-1622.

A 58-year-old incontinent woman with urethral hypermobility undergoes a needle suspension with bone anchors. Four months later, she develops recurrent incontinence. The most likely cause is:

A urethrovaginal fistula.

B suture breakage.

C intrinsic sphincter deficiency.

D loosened bone anchors.

E suture cutting through pubocervical fascia.

A 58-year-old incontinent woman with urethral hypermobility undergoes a needle suspension with bone anchors. Four months later, she develops recurrent incontinence. The most likely cause is:

E: "suture cutting through pubocervical fascia." is correct.

Early failure of bladder suspension procedures is generally related to improper surgical technique. Fifty percent of early failures are due to sutures cutting through the fascia because they were tied too tight. Suture breakage or cutting through the rectus fascia where the sutures are tied are uncommon. Similarly, loosened or breakage of a bone anchor is rare. Similarly, most patients with intrinsic sphincter deficiency would continue to have stress incontinence immediately after a needle suspension. Urethrovaginal fistulas are rare in this setting.

Raz, S, Stothers, L, Chopra A: Vaginal reconstructive surgery for incontinence and prolapse, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, vol 1, chap 32, pp 1059-1094.

A 45-year-old hypertensive man has an elevated 24 hour urinary aldosterone after a period of salt loading. CT scan of the adrenals is normal. The best study for localization of a surgically curable lesion is:

A MRI scan.

B adrenal venography.

C MIBG scan.

D adrenal venous sampling.

E iodocholesterol scan.

A 45-year-old hypertensive man has an elevated 24 hour urinary aldosterone after a period of salt loading. CT scan of the adrenals is normal. The best study for localization of a surgically curable lesion is:

D: "adrenal venous sampling." is correct.

Aldosterone secreting adenomas are unilateral and small in size (1-2cm). They may be smaller than the resolution of CT scanning. In this setting, adrenal venous sampling for aldosterone levels is the most sensitive assessment to identify a unilateral adenoma. An MRI scan offers no advantage over CT scan in this setting. Adrenal venography can be complicated by adrenal infarction and is rarely used.

Bravo EL: Primary aldosteronism: New approaches to diagnosis and management. CLEVE CLIN J MED 1993;60:379-386.

On the eighth day of total parenteral nutrition, the solution is interrupted in order to administer two units of packed red cells through the central venous line to correct a slowly falling hematocrit. The patient suddenly develops hypotension, tachycardia, and hypothermia. The most likely cause for this clinical picture is:

A air embolus.

B Candida sepsis.

C gram-negative sepsis.

D hypoglycemia.

E transfusion reaction.

On the eighth day of total parenteral nutrition, the solution is interrupted in order to administer two units of packed red cells through the central venous line to correct a slowly falling hematocrit. The patient suddenly develops hypotension, tachycardia, and hypothermia. The most likely cause for this clinical picture is:

D: "hypoglycemia." is correct.

Intravenous hyperalimentation (total parenteral nutrition) is an important therapeutic technique. Air embolism can occur either during insertion of the CVP line or during disconnect. It is characterized by vascular collapse and can be prevented by maintaining the patient in the Trendelenburg position. Both Candida and gram-negative sepsis are complications of hyperalimentation but are associated with fever. A transfusion reaction can take many forms such as allergic (hives), febrile (fever, chills, flushing), or hemolytic, but this patient's clinical picture is not typical for a transfusion reaction. The clinical picture here is characteristic of hypoglycemia which occurs when the high carbohydrate hyperalimentation solution is suddenly stopped. Persistence of high endogenous insulin production leads to a profound rebound hypoglycemia. Therefore, hyperalimentation should not be abruptly stopped.

Werlin SL, Wyatt D, Comitta B: Effect of abrupt discontinuation of high glucose infusion rate during parenteral nutrition. J PED 1994;124:441.

Three weeks after a Marshall-Marchetti-Krantz procedure, a 40-year-old woman develops pelvic and suprapubic pain associated with temperatures to 101 degrees Fahrenheit. She experiences difficulty adducting her thighs and has pain to palpation of her symphysis pubis. The most likely diagnosis is:

A osteitis pubis.

B osteomyelitis of pubis.

C obturator nerve injury.

D urinary extravasation.

E pelvic abscess.

Three weeks after a Marshall-Marchetti-Krantz procedure, a 40-year-old woman develops pelvic and suprapubic pain associated with temperatures to 101 degrees Fahrenheit. She experiences difficulty adducting her thighs and has pain to palpation of her symphysis pubis. The most likely diagnosis is:

A: "osteitis pubis." is correct.

This patient exhibits classic signs and symptoms of osteitis pubis. Pelvic and suprapubic pain, fever, and difficulty with thigh adduction are classic findings with this disease. Osteitis pubis has been reported to occur in up to 2.5% of women who have undergone the Marshall-Marchetti-Krantz procedure. Pubic osteomyelitis is possible but is far less common than osteitis pubis. Obturator nerve injury (usually secondary to retractors) can occur following cystourethropexy but does not present with symptoms 3 weeks postoperatively. Urinary extravasation would be very rare 3 weeks postoperatively. The signs and symptoms are much more in keeping with osteitis pubis than they are with pelvic abscess.

Webster GD, Khoury JM: Retropubic suspension surgery for female sphincteric incontinence, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, vol 1, chap 33, pp 1095-1102.

A 55-year-old obese man with epigastric discomfort is noted to have a 5 cm right adrenal mass on CT scan. The mass measures -40 Hounsfield units. The next step is:

A observation.

B 24-hour urine for metanephrines.

C MRI scan.

D right adrenalectomy.

E dexamethasone suppression test.

A 55-year-old obese man with epigastric discomfort is noted to have a 5 cm right adrenal mass on CT scan. The mass measures -40 Hounsfield units. The next step is:

A: "observation." is correct.

A mass with Hounsfield units between -30 and -140 is characteristic of an adrenal myelolipoma. These tumors are benign and are composed of lipid and myeloid tissue. No additional therapy or evaluation is required.

Hilton S, Schwartz LH: Radiologic imaging of genitourinary neoplasms, in Raghavan D, Scher HI, Leibel SA, Lange PH (eds): PRINCIPLES AND PRACTICE OF GENITOURINARY ONCOLOGY. Philadelphia, Lippincott-Raven, 1997, pp 33-42.

A 12-year-old boy undergoes resection of a large retroperitoneal tumor. He requires transfusion of five units of banked blood and receives 1500 cc of Ringer's lactate solution. An intraoperative PT and PTT are both elevated. The coagulation factors most likely deficient from his transfusion are:

A IV and VII.

B II and V.

C V and VIII.

D V and X.

E VIII and X.

A 12-year-old boy undergoes resection of a large retroperitoneal tumor. He requires transfusion of five units of banked blood and receives 1500 cc of Ringer's lactate solution. An intraoperative PT and PTT are both elevated. The coagulation factors most likely deficient from his transfusion are:

C: "V and VIII." is correct.

In patients who receive massive blood transfusion (one blood volume or more) coagulation defects as measured by the PT and PTT may be encountered. All the coagulation factors are well preserved in banked blood except the labile factors V and VIII. These labile factors have very short half-lives. They are replaced with transfusion with fresh frozen plasma.

Blaisdell FW: Bleeding, in Wilmore DW, Cheung LY, Harken AH, Holcroft JW, et al (eds): SCIENTIFIC AMERICAN SURGERY. Web MD, 1995, chap 7, pp 1-11.

Six months following a TURP for BPH, a 65-year-old man complains of intermittent incontinence which occurs during the day and at night. His peak urinary flow rate is 24 ml/second, and he can voluntarily interrupt his urinary stream. The best diagnostic study is:

A urethral pressure profilometry.

B urine cytology.

C flowmetry with perineal EMG.

D CMG.

E cystoscopy.

Six months following a TURP for BPH, a 65-year-old man complains of intermittent incontinence which occurs during the day and at night. His peak urinary flow rate is 24 ml/second, and he can voluntarily interrupt his urinary stream. The best diagnostic study is:

D: "CMG." is correct.

Detrusor instability and sphincteric damage are the two most common causes of incontinence following TURP. In this individual, the fact that the incontinence is intermittent and occurs at night suggests a detrusor rather than a sphincteric-related etiology. The fact that the peak flow rate is 24 cc per second suggests that outlet obstruction has, in fact, been relieved. The most likely explanation for this patient's incontinence is the presence of involuntary bladder contractions, and these are best diagnosed with a CMG. Approximately 50% of patients with prostatic obstruction will show evidence of involuntary bladder contractions on cystometry. After relief of the outlet obstruction, these disappear in approximately 70% of cases over a period of one to twelve months.

Hammerer PG, Huland H: Postprostatectomy incontinence, in O'Donnell PD (ed): URINARY INCONTINENCE. St. Louis, Mosby -Year Book, 1997, chap 44, pp 316-317.

The best predictor of long-term recurrence-free status in a patient with non-invasive bladder cancer is:

A tumor size.

B Rb mutation.

C tetraploid flow cytometry.

D negative random biopsies.

E negative cystoscopy three months after a TURBT.

The best predictor of long-term recurrence-free status in a patient with non-invasive bladder cancer is:

E: "negative cystoscopy three months after a TURBT." is correct.

In patients with a well- or moderately-differentiated Stage Ta bladder cancer, the factor which best predicts the absence of recurrence is a post-TURBT negative cystoscopy at three months. The patient with no recurrence at three months cystoscopy has an 80% chance of no further recurrence. The other factors listed have a dramatic impact on progression rate but less impact on recurrence rate.

Heney NM: Natural history of superficial bladder cancer. UROL CLIN N AM 1992;19:429.

Fitzpatrick JM: The natural history of superficial bladder carcinoma. SEM UROL 1993;11:1120.

A six-week-old boy was born at 27 weeks gestation. His postnatal course has been complicated by respiratory distress, bronchopulmonary dysplasia, and a patent ductus arteriosus. He has required long-term diuretic therapy. A KUB reveals calcifications in the mid and upper regions consistent with bilateral renal calculi. The most likely mechanism for the formation of the stones is:

A hypercalciuria.

B hyperuricosuria.

C obstructive uropathy.

D Type I renal tubular acidosis.

E Type II renal tubular acidosis.

A six-week-old boy was born at 27 weeks gestation. His postnatal course has been complicated by respiratory distress, bronchopulmonary dysplasia, and a patent ductus arteriosus. He has required long-term diuretic therapy. A KUB reveals calcifications in the mid and upper regions consistent with bilateral renal calculi. The most likely mechanism for the formation of the stones is:

A: "hypercalciuria." is correct.

Renal calculi occur in very low birth weight pre-term infants with a history of severe ventilatory problems and bronchopulmonary dysplasia. Many of these infants require long-term treatment with diuretic agents to control heart failure. The diuretic agent used most often is furosemide, which increases the rate of calcium excretion up to ten times normal. Chronic hypercalciuria from furosemide therapy has been shown to lead to nephrocalcinosis and calculus formation. Loss of calcium from chronic administration of furosemide may lead to secondary hyperparathyroidism and bone changes. Treatment includes switching from furosemide to thiazides.

Diamond DA, Gosalbez R: Neonatal urologic emergencies, in Walsh PC, Retik AB, Vaughn ED Jr, Wein, AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, chap 54, pp 1629-1654.

A 38-year-old woman develops incontinence ten days after an abdominal hysterectomy and anterior colporrhaphy for a large cystocele. She complains of leakage that is constant, but increases with an increase in abdominal pressure. The most likely diagnosis is:

A overflow incontinence.

B transient detrusor instability.

C stress incontinence.

D ureterovaginal fistula.

E vesicovaginal fistula.

A 38-year-old woman develops incontinence ten days after an abdominal hysterectomy and anterior colporrhaphy for a large cystocele. She complains of leakage that is constant, but increases with an increase in abdominal pressure. The most likely diagnosis is:

E: "vesicovaginal fistula." is correct.

All of these causes are possible, but a vesicovaginal fistula is the most likely diagnosis of her incontinence and should be looked for even if stress incontinence is present.

Leach GE, Trockman BA: Surgery for vesicovaginal fistula and urethral diverticulum, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, vol 1, chap 37, pp 1135-1154.

A 60-year-old man has a Grade III, T1 transitional cell carcinoma of the bladder. He receives the fifth of six weekly instillations of intravesical BCG. Twelve hours later he has a temperature of 39.5 degrees Celsius, difficulty breathing, and hypotension. The most likely cause of this complication is:

A reflux of BCG into the upper tracts.

B acute urinary tract infection.

C traumatic catheterization.

D more virulent strain of BCG.

E impaired immunological state.

A 60-year-old man has a Grade III, T1 transitional cell carcinoma of the bladder. He receives the fifth of six weekly instillations of intravesical BCG. Twelve hours later he has a temperature of 39.5 degrees Celsius, difficulty breathing, and hypotension. The most likely cause of this complication is:

C: "traumatic catheterization." is correct.

The majority of patients tolerate BCG instillation well. In 2,602 patients treated with different strains of BCG, high fever (>39 degrees Celsius) was noted in 2.9% of patients. Life-threatening BCG sepsis was noted in 0.4%. Fever greater than 39.5 degrees Celsius that does not resolve within 12 hours despite antipyretic therapy is potentially dangerous. Since most cases of BCG sepsis are associated with intravenous absorption of BCG it is recommended that BCG not be given until at least one week after tumor resection. In the patients who died from BCG sepsis, almost all cases had traumatic catheterization before instillation therapy or they were treated too early after transurethral prostatectomy or biopsy. Treatment should include isoniazid 300 mg, rifampin 600 mg, and ethambutol 1200 mg daily. After antitubercular drugs are started, corticosteroids may be given if the patient is toxic.

Lamm DL, van der Meijden APM, Morales A, et al: Incidence and treatment of complications of Bacillus Calmette-Guerin intravesical therapy in superficial bladder cancer. J UROL 1992,147:596.

A five-year-old girl receives 100 mg Pyridium (phenazopyridine) for irritative bladder symptoms one day after bilateral ureteral reimplantation. An epidural catheter is in place infusing meperidine. She becomes dyspneic and cyanotic, and pulse oximetry shows an oxygen saturation of 75%. Treatment should be:

A naloxone.

B folic acid.

C terbutaline.

D methylene blue.

E racemic epinephrine.

A five-year-old girl receives 100 mg Pyridium (phenazopyridine) for irritative bladder symptoms one day after bilateral ureteral reimplantation. An epidural catheter is in place infusing meperidine. She becomes dyspneic and cyanotic, and pulse oximetry shows an oxygen saturation of 75%. Treatment should be:

D: "methylene blue." is correct.

Pyridium (phenazopyridine) can produce methemoglobinemia in patients with normal renal function. This may be manifest by peripheral cyanosis and decreased oxygen saturation. Increasing concentrations of methemoglobin produce dyspnea, headache, fatigue, tachycardia, and dizziness. Treatment with methylene blue is rapidly curative. Phenazopyridine produces methemoglobin by direct oxidation of hemoglobin. Methylene blue acts as an electron acceptor to permit reduction of the methemoglobin. Patients with narcotic overdose and respiratory insufficiency are not typically dyspneic, but exhibit depressed respirations.

Landman J, Kavaler E, Waterhouse RL Jr: Acquired methemoglobinemia possibly related to phenazopyridine in a woman with normal renal function. J UROL 1997;158:1520-1521.

A 62-year-old woman complains of urge incontinence and difficulty initiating volitional urination 12 months after a needle suspension for stress incontinence. Her residual urine is 120 ml, and mid-voiding pressure is 52 cm/H2O during an uninhibited contraction. The best management is:

A clean intermittent catheterization.

B oxybutynin and timed voiding.

C urethral dilation.

D removal of one suspension suture.

E transvaginal urethrolysis.

A 62-year-old woman complains of urge incontinence and difficulty initiating volitional urination 12 months after a needle suspension for stress incontinence. Her residual urine is 120 ml, and mid-voiding pressure is 52 cm/H2O during an uninhibited contraction. The best management is:

E: "transvaginal urethrolysis." is correct.

This patient has urethral obstruction as indicated by elevated voiding pressures and a significant urinary residual. Ditropan is contraindicated because of the obstruction, defined by the high voiding pressure and residual urine. Intermittent catheterization will not solve the basic problem and is not likely by itself to control the unstable bladder. Removal of one suture will not address the problem because the urethra is likely fibrosed in place. Hyperdilation of the urethra will not resolve the obstruction. The suspension should be taken down with urethrolysis, although stress incontinence can return in up to 12% of cases.

Foster HE Jr, McGuire EJ: Urethrolysis, in O'Donnell PD (ed): URINARY INCONTINENCE, St. Louis, Mosby Year Book, 1997, chap 35, pp 253-257.

A 72-year-old man on chronic hemodialysis has gross hematuria. A 3 cm muscle-invasive transitional cell carcinoma is resected just lateral to the right ureteral orifice. Random biopsies of the bladder and prostatic urethra are negative. A CT scan shows no evidence of metastatic disease. He produces 100 cc of urine per day. The most appropriate management is:

A surveillance cystoscopy in three months.

B partial cystectomy with right ureteral reimplantation.

C radical cystectomy and ileal conduit.

D radical cystectomy and orthotopic neobladder.

E radical cystectomy and bilateral nephroureterectomy.

A 72-year-old man on chronic hemodialysis has gross hematuria. A 3 cm muscle-invasive transitional cell carcinoma is resected just lateral to the right ureteral orifice. Random biopsies of the bladder and prostatic urethra are negative. A CT scan shows no evidence of metastatic disease. He produces 100 cc of urine per day. The most appropriate management is:

E: "radical cystectomy and bilateral nephroureterectomy." is correct.

The best management for muscle invasive bladder cancer is radical cystectomy. In a patient on chronic hemodialysis with essentially no urine output, there is little reason to preserve the kidneys, so the best choice for this patient is cystectomy and bilateral nephroureterectomy, which will simplify the procedure and the patient's recovery by obviating the need to create any form of urinary diversion.

Messing EM, Catalona WJ: Urothelial tumors of the urinary tract, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, chap 77, pp 2329-2382.

Berry aneurysms of the circle of Willis are most frequently associated with:

A renal aneurysms.

B autosomal dominant polycystic kidneys.

C autosomal recessive polycystic kidneys.

D horseshoe kidney.

E multicystic dysplastic kidneys.

Berry aneurysms of the circle of Willis are most frequently associated with:

B: "autosomal dominant polycystic kidneys." is correct.

Ten percent of patients with autosomal dominant polycystic disease have berry aneurysms and subarachnoid hemorrhage can be a lethal consequence. The high incidence of hypertension with autosomal polycystic kidney disease may contribute to the frequency of bleeding from the berry aneurysm.

Glassberg GI: Renal dysplasia and cystic disease of the kidney, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, pp 1757-1804.

A 65-year-old man has dribbling incontinence six weeks after an uncomplicated abdominoperineal resection for rectal carcinoma. One year prior to surgery, he had an AUA Symptom Score of 17 and a palpably enlarged, but benign prostate. A CMG shows a PVR of 200 cc and no detrusor contraction. The best treatment is:

A neural stimulation.

B TUMT.

C suprapubic cystostomy.

D clean intermittent catheterization.

E indwelling urethral catheter and repeat CMG in two weeks.

A 65-year-old man has dribbling incontinence six weeks after an uncomplicated abdominoperineal resection for rectal carcinoma. One year prior to surgery, he had an AUA Symptom Score of 17 and a palpably enlarged, but benign prostate. A CMG shows a PVR of 200 cc and no detrusor contraction. The best treatment is:

D: "clean intermittent catheterization." is correct.

During the course of abdominoperineal resection of the rectum, the sympathetic and parasympathetic nerves to the bladder and bladder neck may be injured. This results in detrusor areflexia and possible denervation of the external sphincter. Clinically this is manifested as urinary retention and possibly stress incontinence. Initial treatment should be clean intermittent catheterization while awaiting neurologic recovery which can take as long as one year. Once detrusor activity returns, the surgical treatment of benign prostatic hyperplasia may be considered if diagnosed urodynamically.

Wein AJ, Rovner ES: Adult voiding dysfunction secondary to neurologic disease or injury. AUA UPDATE SERIES 1999, vol 18, lesson 6.

A 67-year-old man has adenocarcinoma of the bladder located on the lateral wall, 3 cm cephalad to the left ureteral orifice. Abdominal and pelvic CT scan and chest radiograph show no evidence of metastatic disease. The next step is:

A colonoscopy.

B IVP.

C repeat TURBT.

D partial cystectomy.

E radical cystectomy.

A 67-year-old man has adenocarcinoma of the bladder located on the lateral wall, 3 cm cephalad to the left ureteral orifice. Abdominal and pelvic CT scan and chest radiograph show no evidence of metastatic disease. The next step is:

A: "colonoscopy." is correct.

Most adenocarcinomas of the bladder represent metastases from other primary adenocarcinomas such as colon, breast, or lung cancers. Hence, a primary source other than the bladder must be considered, and this patient should undergo colonoscopy for further evaluation prior to administration of definitive therapy.

Messing EM, Catalona W: Urothelial tumors of the urinary tract, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, vol 3, chap 77, pp 2344-2345.

A 42-year-old man is undergoing laparotomy for intraabdominal injuries and bladder rupture. Bleeding is noted in the perivesical area. After repair of bladder rupture, pelvic pressure does not stop the persistent oozing. Multiple blood transfusions are given and his core temperature is 35.5 degrees Celsius. The next step is:

A intraoperative arteriography.

B ligation of the hypogastric arteries.

C intravenous aminocaproic acid.

D close the abdomen and place patient in a MAST suit.

E pack pelvis and close abdomen.

A 42-year-old man is undergoing laparotomy for intraabdominal injuries and bladder rupture. Bleeding is noted in the perivesical area. After repair of bladder rupture, pelvic pressure does not stop the persistent oozing. Multiple blood transfusions are given and his core temperature is 35.5 degrees Celsius. The next step is:

E: "pack pelvis and close abdomen." is correct.

Most major bleeding from the pelvis following blunt trauma can be controlled by packing the pelvis and planned re-exploration and/or angiography with embolization. Ligation of hypogastric arteries or veins is seldom helpful in management because bleeding occurs from multiple pelvic veins. On-table arteriography is technically difficult, time consuming, and provides poor images and should therefore not be used. The use of a MAST suit in such cases has not been proven to be effective. Bleeding is due to trauma and unlikely to respond to medical therapy.

Mucha P: Retroperitoneal injury, in Cameron JL (ed): CURRENT SURGICAL THERAPY. St. Louis, Mosby Year Book, 1995, pp 837-843.

A 38-year-old, T-10 paraplegic man undergoes a cystoscopy and transurethral sphincterotomy. In the recovery room he is apprehensive, diaphoretic, and agitated. Vital signs reveal a blood pressure of 92/55 mm/Hg, pulse 120, respiration 24, and temperature 99.8 degrees Fahrenheit. The most likely diagnosis is:

A autonomic dysreflexia.

B gram-negative septicemia.

C cerebral hypoxia.

D water intoxication.

E urinary extravasation.

A 38-year-old, T-10 paraplegic man undergoes a cystoscopy and transurethral sphincterotomy. In the recovery room he is apprehensive, diaphoretic, and agitated. Vital signs reveal a blood pressure of 92/55 mm/Hg, pulse 120, respiration 24, and temperature 99.8 degrees Fahrenheit. The most likely diagnosis is:

B: "gram-negative septicemia." is correct.

The spinal cord lesion is too low for this to be autonomic dysreflexia. Also, autonomic dysreflexia would produce a lowering of the pulse rate and an elevation of the blood pressure. Endotoxin released by circulating gram-negative bacilli can produce the symptoms and signs described in this patient and are the most likely cause of this patient's problems. Blood and urine cultures should be obtained at once and therapy with broad spectrum, systemic antibiotics, and intravenous fluids should be instituted simultaneously.

Karlsson AK: Autonomic dysreflexia. SPINAL CORD 1999;37:363-369.

Tierny LM: Blood vessels and lymphatics, in Tierney LM, McPhee SF, Papadakis MA (eds): CURRENT MEDICAL DIAGNOSIS AND TREATMENT. San Mateo, Lange Medical Books, 1994, pp 418-422.

A 63-year-old man is disease-free two years after BCG therapy for CIS and a Grade 2, Stage T1 bladder cancer. In addition to physical examination, cystoscopy, and urinary cytology, evaluation at this time should include:

A urinary NMP-22 testing.

B IVP.

C selective upper tract cytology.

D random biopsies of the bladder.

E prostatic urethral biopsy.

A 63-year-old man is disease-free two years after BCG therapy for CIS and a Grade 2, Stage T1 bladder cancer. In addition to physical examination, cystoscopy, and urinary cytology, evaluation at this time should include:

B: "IVP." is correct.

The frequency of development of metachronous upper tract tumors in patients with superficial TCC of the bladder is not exactly known, but has been estimated to be very low (1-3%). The incidence is higher in patients with higher stage (T2+) primary lesions (2-8%). Patients treated for high-risk superficial TCC with BCG demonstrate a higher rate (13-18%) of recurrence over three years follow-up. The best approach to follow-up in patients treated with BCG is therefore the addition of upper tract imaging in the form of an IVP. Selective cytology as a routine practice is not recommended.

Miller EB, Eure GR, Schellhammer PF: Upper tract transitional cell carcinoma following treatment of superficial bladder cancer with BCG. UROL 1993;42:26-30.

Hurle R, Losa A, Manzetti A, Lembo A: Upper urinary tract tumors developing after treatment of superficial bladder cancer: 7-year follow-up of 591 consecutive patients. UROL 1999;53:1144-1148.

A 62-year-old man with erectile dysfunction following a nerve-sparing radical prostatectomy reports a lack of response 20 minutes after taking a 100 mg dose of sildenafil. The next step is:

A placement of a penile prosthesis.

B penile injection with PGE-1.

C increase the dose of sildenafil.

D counsel patient to wait at least 60 minutes before expecting a response.

E add an alpha-1 adrenergic antagonist to next dose.

A 62-year-old man with erectile dysfunction following a nerve-sparing radical prostatectomy reports a lack of response 20 minutes after taking a 100 mg dose of sildenafil. The next step is:

D: "counsel patient to wait at least 60 minutes before expecting a response." is correct.

The onset of action of sildenafil is 50 minutes if taken on an empty stomach. This medication requires psychic or physical stimulation to facilitate a response.

Goldstein I, Lue TF, Padma-Nathan H, Rosen RC, Steers WD, Wicker PA: Oral sildenafil in the treatment of erectile dysfunction. NEJM 1998;14;338(20):1397-1404.

The risk of hemorrhagic cystitis associated with cyclophosphamide may be reduced by concomitant treatment with:

A Mesna.

B acrolein.

C ifosfamide.

D oxopentanoic acid.

E tetrahydrocannabinol.

The risk of hemorrhagic cystitis associated with cyclophosphamide may be reduced by concomitant treatment with:

A: "Mesna." is correct.

Ifosfamide is an oxazaphosphorine and a structural analogue of cyclophosphamide. Acrolein is a toxic metabolite of these compounds that is, in part, responsible for the urothelial injury. Mesna protects the urothelium by binding the toxic metabolites. Tetrahydrocannabinol is useful for its antiemetic properties.

West NJ: Prevention and treatment of hemorrhagic cystitis. PHARMACOTHERAPY 1997;17:696-706.

A 68-year-old man with intermittent gross hematuria has a large papillary tumor found within a bladder diverticulum. An IVP shows normal upper tracts and urine cytology is positive. Cold cup biopsy of the lesion reveals a Grade 2 TCC. Random biopsies of normal appearing bladder are negative. Further management should entail:

A ureteral cytologies.

B TURBT.

C TURBT followed by BCG.

D partial cystectomy.

E radical cystectomy.

A 68-year-old man with intermittent gross hematuria has a large papillary tumor found within a bladder diverticulum. An IVP shows normal upper tracts and urine cytology is positive. Cold cup biopsy of the lesion reveals a Grade 2 TCC. Random biopsies of normal appearing bladder are negative. Further management should entail:

D: "partial cystectomy." is correct.

By definition a bladder diverticulum is lined by mucosa and lamina propria only. Therefore, a lesion within a diverticulum should be biopsied and not resected given the high risk for perforation and spillage of tumor cells. Random bladder biopsies should be performed, especially in the face of a positive cytology to guide the decision of partial cystectomy versus cystectomy.

Messing EM, Catalona WJ: Urothelial tumors of the urinary tract, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELLS UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, vol 3, chap 77, p 2358.

During a cadaver donor nephrectomy, a normal main renal artery and a small accessory renal artery 2 mm in diameter supplying the lower pole of the left kidney are found. The best management is to:

A declare the kidney unsuitable for transplantation.

B perform donor nephrectomy with ligation of the small lower pole branch.

C perform donor nephrectomy and anastomose smaller artery into side of main artery.

D perform donor nephrectomy with en-bloc Carrel aortic patch for transplantation.

E perform donor nephrectomy and implant each artery separately.

During a cadaver donor nephrectomy, a normal main renal artery and a small accessory renal artery 2 mm in diameter supplying the lower pole of the left kidney are found. The best management is to:

D: "perform donor nephrectomy with en-bloc Carrel aortic patch for transplantation." is correct.

It is vital to preserve circulation through the lower pole artery, since most of the renal pelvic and ureteral blood supply comes from this vessel and its sacrifice will result in a high percentage of ureteral slough. The most effective way to preserve flow through this small vessel would be to resect the entire aortic segment involved, allowing implantation of the kidney utilizing the Carrel patch technique. In situ repair at the time of donor nephrectomy would be technically difficult. It would be unwise to transect both vessels, since the small one would be difficult to perfuse, and anastomosis in the recipient will be difficult unless microvascular extracorporeal reconstruction is performed. Failure to preserve polar renal arteries that supply either the lower pole and ureter or more than 10% of the renal parenchyma may lead to renal ischemia, segmental infarction, or urinary fistula formation.

Hodge E, Flechner S, Novick AC: Renal transplantation, in Gillenwater JY, Grayhack JT, Howards SS, Duckett JW (eds): ADULT AND PEDIATRIC UROLOGY. St. Louis, Mosby Year Book, 1996, pp 999-1068.

Stewart BH: Renal transplantation, in Banowsky L (ed): OPERATIVE UROLOGY. Baltimore, Williams & Wilkins, 1975, pp 215-246.

Estrogen is effective in controlling lower urinary tract infections in post-menopausal women by:

A decreasing vaginal pH.

B decreasing bacterial adherence.

C altering the fecal reservoir of bacteria.

D increasing antibody production.

E increasing antibiotic diffusion into the vagina.

Estrogen is effective in controlling lower urinary tract infections in post-menopausal women by:

A: "decreasing vaginal pH." is correct.

Pathogenic bacteria from the bowel most likely gain access to the lower urinary tract by direct extension and vaginal colonization. E. coli is rarely present in the vagina at a pH less than 4.5. Post-menopausal women have a vaginal pH of 5.2, and this decreases following estrogen therapy. A decrease in vaginal colonization with Enterobacteriaceae has been seen after such treatment. Answers B, C, D or E have not been affected by estrogen treatment.

Raz R, Stamm WE: A controlled trial of intravaginal estriol in postmenopausal women with recurrent urinary tract infections. NEJM 1993;329:753-756.

After hemodialysis, serum PSA levels are:

| | Total | Free:Total Ratio |
|---|---|---|
| A | ↓ | ↔ |
| B | ↓ | ↓ |
| C | ↔ | ↔ |
| D | ↔ | ↓ |
| E | ↓ | ↑ |

After hemodialysis, serum PSA levels are:

Total Free:Total Ratio

C: " ↔ ↔" is correct.

While patients with renal failure have significantly higher levels of free PSA and free to total PSA ratio compared with controls, these values do not change after hemodialysis. It is also interesting that hemodialysis patients do not appear to have any age related increases in free or total PSA.

Sasagawa I, Kubota Y, Hayami S, et al: Serum levels of total and free prostate specific antigen in men on hemodialysis. J UROL 1998;160:83-85.

Monath JR, Burkart JM, Freedman BI, et al: Effects of hemodialysis on prostate specific antigen. UROL 1993;42:398.

A five-year-old boy with bladder exstrophy underwent neonatal closure with bilateral posterior iliac osteotomies. He remains totally incontinent despite repair of his epispadias at two years of age. Studies reveal a bladder capacity of 50 cc with mild hypertonicity. The next step is:

A continent urinary diversion.

B augmentation cystoplasty.

C bladder neck reconstruction.

D injection of collagen at the bladder neck.

E bladder neck reconstruction and augmentation cystoplasty.

A five-year-old boy with bladder exstrophy underwent neonatal closure with bilateral posterior iliac osteotomies. He remains totally incontinent despite repair of his epispadias at two years of age. Studies reveal a bladder capacity of 50 cc with mild hypertonicity. The next step is:

E: "bladder neck reconstruction and augmentation cystoplasty." is correct.

Vesical neck reconstruction using a Young-Dees-Leadbetter procedure, or modification thereof, is the treatment of choice to provide continence for children with bladder exstrophy. This patient has a very small bladder capacity associated with decreased compliance. The single most important parameter in achieving urinary continence in patients with bladder exstrophy is bladder capacity. The best chance of producing complete urinary control is with simultaneous vesical neck reconstruction and bladder enhancement. Augmentation cystoplasty alone will not solve the problem of an incompetent bladder-neck. A rectus fascial sling does not solve the problem of a small bladder capacity. Collagen is unlikely to have durable success, but may help ascertain if the bladder will enlarge.

Gearhart JP, Jeffs RD: Exstrophy-epispadias complex and bladder anomalies in, Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, vol 2, chap 63, pp 1939-1990.

The disease that is caused by an organism similar to Klebsiella pneumoniae and is identified by the presence of Donovan bodies is:

A chancroid.

B granuloma inguinale.

C lymphogranuloma venereum.

D malakoplakia.

E bacterial vaginosis.

The disease that is caused by an organism similar to Klebsiella pneumoniae and is identified by the presence of Donovan bodies is:

B: "granuloma inguinale." is correct.

Granuloma inguinale is a sexually transmitted infection of the skin and subcutaneous tissue of the inguinal and perineal area. It is caused by Calymmatobacterium granulomatis, an organism related to Klebsiella pneumoniae. The lesion is characterized histologically by rods with bipolar staining, called Donovan bodies, that are noted in monocytes in a smear of tissue from the ulcer base. The lesion may be confused with chancroid. Bacterial vaginosis or nonspecific vaginitis is usually detected by clue cells and caused by Gardenerella vaginalis.

Berger RE, Lee JC: Sexually transmitted diseases: the classic diseases, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 8. Philadelphia, WB Saunders Co, 2002, chap 17, pp 671-691.

In a patient with metastatic prostate cancer, a false-negative bone scan is suggested by:

A non-visualization of the kidneys.

B non-visualization of the liver.

C asymmetrical isotope distribution in the bones.

D visualization of the liver.

E increased pulmonary visualization.

In a patient with metastatic prostate cancer, a false-negative bone scan is suggested by:

A: "non-visualization of the kidneys." is correct.

Patients with extensive bony metastases can occasionally have the majority of the technetium polyphosphate localized to the skeleton, giving the appearance of a normal scan. The characteristic finding of a "super scan" associated with diffuse metastases is the lack of renal excretion of the radioisotope.

Carter HB, Partin AW: Diagnosis and staging of prostate cancer, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, vol 3, chap 83, pp 2519-2538.

Spontaneous bladder perforation after enterocystoplasty is most likely the result of:

A transmural cystitis.

B mucous plug.

C catheter trauma.

D ischemic necrosis.

E bladder calculi.

Spontaneous bladder perforation after enterocystoplasty is most likely the result of:

D: "ischemic necrosis." is correct.

Ischemic necrosis of the augmented bladder wall may result from inefficient bladder emptying and chronic overdistension. Patient noncompliance with intermittent catheterization and mucus plugs may contribute to chronic overdistension, but are not the primary cause for bladder rupture after augmentation cystoplasty. A lack of detrusor sensation, chronic inflammation and the presence of bladder calculi may also be contributing factors.

Rink RC, Adams MC: Augmentation cystoplasty, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, vol 3, chap 102, pp 3168-3189.

A 70-year-old man with metastatic colon cancer and indwelling ureteral stents develops high volume gross hematuria. Arteriography demonstrates a fistula between the right common iliac artery and ureter. The next step is:

A stent removal.

B percutaneous nephrostomy.

C embolize common iliac artery.

D open surgical repair.

E endovascular graft placement.

A 70-year-old man with metastatic colon cancer and indwelling ureteral stents develops high volume gross hematuria. Arteriography demonstrates a fistula between the right common iliac artery and ureter. The next step is:

E: "endovascular graft placement." is correct.

The majority of arterial ureteral fistulas occur in patients who have had extensive pelvic surgery, radiation therapy and indwelling ureteral stents. A high percentage involve the common iliac artery but may also involve the hypogastric artery. Patients can experience high volume bleeding resulting in hemodynamic instability. Emergency arteriography should be performed if this complication is suspected. While embolization of the common iliac artery will control hemorrhage, a femoral to femoral artery bypass is required to provide adequate circulation to the ipsilateral lower extremity. Placement of an endovascular stented graft or an autologous vein covered stent are less invasive options obviating the need for vascular reconstructive surgery in a patient with limited life expectancy. The ureteral stent should be removed and a percutaneous nephrostomy placed after this procedure to limit recurrent fistula formation.

Sexton WJ, Routh WD, McCullough DL, Bare RL: Hypogastric arterial-ureteral fistula. J UROL 1998;159:196-197.

Kerns DB, Darcy MD, Baumann DS, Allen BT: Autologous vein-covered stent for the endovascular management of an iliac artery -ureteral fistula: Case report and review of the literature. J VASC SUR 1996;24:680.

Houshiar AM, Hulbert JC, Bjarnason H, Cragg AH: Percutaneous treatment of an intraoperative arterial injury as a result of endoureterotomy. J UROL 1997;157:2249.

The major risk associated with harvesting the sural nerve for grafting after resection of a neurovascular bundle during radical prostatectomy is:

A painful neuroma.

B sensory loss on the medial aspect of the foot.

C motor loss of the calf muscles.

D foot drop.

E DVT.

The major risk associated with harvesting the sural nerve for grafting after resection of a neurovascular bundle during radical prostatectomy is:

A: "painful neuroma." is correct.

Harvesting of the sural nerve is associated with sensory loss on the lateral surface of the foot, which typically is not functionally significant. The sural nerve is primarily a sensory nerve and muscular weakness should not occur. DVT is not common. No motor defect results. The major long-term complication is the formation of a painful neuroma that can develop at the proximal end of the transected nerve.

Scardino PT, Kim ED: Rationale for and results of nerve grafting during radical prostatectomy. UROL 2001;57:1016-1019.

Walsh PC: Nerve grafts are rarely necessary and are unlikely to improve sexual function in men undergoing anatomic radical prostatectomy. UROL 2001;57:1020-1024.

In pediatric patients with ventriculoperitoneal shunt infection following augmentation cystoplasty, the usual time to presentation, and the most frequent type of bacterial infection, is:

A < 30 days; Gram positive.

B < 30 days; Gram negative.

C > 30 days; mixed growth.

D > 30 days; Gram positive.

E > 30 days; Gram negative.

In pediatric patients with ventriculoperitoneal shunt infection following augmentation cystoplasty, the usual time to presentation, and the most frequent type of bacterial infection, is:

E: "> 30 days; Gram negative." is correct.

Ventriculoperitoneal shunt infections following augmentation cystoplasty are seen in 4 to 20% of patients. They most commonly present greater than 30 days after the procedure with a gram negative organism isolated from the shunt. The bacteria usually is the same organism obtained from the preoperative urine culture. Symptoms include fever and gastrointestinal complaints and patients may or may not have neurologic signs. A shunt series usually demonstrates an obstructed peritoneal limb.

Matthews GJ, Churchill BA, McLorie GA, Hhoury AE: Ventriculoperitoneal shunt infection after augmentation cystoplasty. J UROL 1996;155:686-688.

The major disadvantage of 5-flucytosine for treatment of Candida albicans pyelonephritis is:

A nephrotoxicity.

B poor renal concentration.

C allergic reactions.

D organism resistance.

E hepatotoxicity.

The major disadvantage of 5-flucytosine for treatment of Candida albicans pyelonephritis is:

D: "organism resistance." is correct.

Flucytosine is readily absorbed from the gastrointestinal tract. It is eliminated by glomerular filtration, and its dosage needs to be modified in the presence of renal insufficiency. Successful management of urinary tract infections is common, but primary resistance to the drug occurs in approximately 10% of infections caused by C. albicans and in up to 30% of infections caused by other species.

Wise GJ: Fungal and actinomycotic infections of the genitourinary system, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 8. Philadelphia, WB Saunders Co, 2002, chap 22, pp 797-827.

An 80-year-old man has newly diagnosed prostate cancer metastatic to his vertebrae, ribs, and bony pelvis. He has severe back pain and leg weakness. He is on coumadin for atrial fibrillation. Initial treatment should be:

A stilbestrol.

B LH-RH agonist.

C LH-RH agonist and flutamide.

D bilateral orchiectomy.

E ketoconazole.

An 80-year-old man has newly diagnosed prostate cancer metastatic to his vertebrae, ribs, and bony pelvis. He has severe back pain and leg weakness. He is on coumadin for atrial fibrillation. Initial treatment should be:

E: "ketoconazole." is correct.

Impending spinal cord compression mandates immediate androgen deprivation in this patient. Of the treatments above, only bilateral orchiectomy and ketoconazole will provide immediate reduction of circulating androgens. Due to the patient's anticoagulation, ketoconazole is the safest of the two choices.

Ahmann FR, Dalkin BL: Controversies in the management of newly diagnosed metastatic prostate cancer, in Dawson NA, Vogelzang NJ (eds): PROSTATE CANCER. New York, Wiley-Liss Inc, 1994, pp 215-233.

The nerve supply of the adrenal gland is:

A parasympathetic to medulla.

B sympathetic to medulla.

C parasympathetic to cortex; sympathetic to medulla.

D sympathetic to cortex and medulla.

E sympathetic to cortex; parasympathetic to medulla.

The nerve supply of the adrenal gland is:

B: "sympathetic to medulla." is correct.

The only nerves to the adrenal which have been demonstrated are sympathetic branches from T/10-L/1 coursing through the splanchnic nerves. Cortical innervation or parasympathetic innervation have not been demonstrated.

Hinman F Jr: ATLAS OF UROSURGICAL ANATOMY. Philadelphia, WB Saunders Co, 1993, p 291.

A 32-year-old woman has had right flank pain and spiking fevers to 102 degrees Fahrenheit for three days. Her urine culture is positive. A CT scan without contrast is normal, but with contrast, a localized area of hypoattenuation is seen in the lower pole of the right kidney. The most appropriate management is I.V. antibiotics and:

A observation.

B DMSA scan.

C retrograde pyelogram.

D percutaneous drainage.

E surgical drainage.

A 32-year-old woman has had right flank pain and spiking fevers to 102 degrees Fahrenheit for three days. Her urine culture is positive. A CT scan without contrast is normal, but with contrast, a localized area of hypoattenuation is seen in the lower pole of the right kidney. The most appropriate management is I.V. antibiotics and:

A: "observation." is correct.

This patient has acute focal bacterial nephritis which usually responds to I.V. antibiotics. Drainage is rarely required.

Schaeffer AJ: Infections of the urinary tract, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 8. Philadelphia, WB Saunders Co, 2002, chap 15, pp 515-602.

A 49-year-old man with poor libido and erectile dysfunction has a testosterone level of 122 ng/dl (normal 200-800 ng/dl). He has mild bilateral testicular atrophy, and his prostate is approximately 15 gm size, without induration or nodules. His serum PSA is 2.4 ng/ml. The next step is:

A antibiotics and repeat PSA in six weeks.

B free testosterone level.

C testosterone supplementation.

D transrectal ultrasound guided prostate biopsy.

E % free PSA.

A 49-year-old man with poor libido and erectile dysfunction has a testosterone level of 122 ng/dl (normal 200-800 ng/dl). He has mild bilateral testicular atrophy, and his prostate is approximately 15 gm size, without induration or nodules. His serum PSA is 2.4 ng/ml. The next step is:

D: "transrectal ultrasound guided prostate biopsy." is correct.

The normal PSA for a man under 50 is < 2.5, and in light of the low testosterone, this patient should have a much lower PSA level. Hence, a PSA of 2.4 in this setting is suspicious for cancer and a prostate biopsy should be performed. There is no role for a % free PSA estimation, as it will not alter management at this time. Alternatively, the PSA could be repeated after testosterone replacement.

Lilja H, Piironen TP, Rittenhous HG, Micolajczyk SD, Slawin KM: Prostate specific antigen, in Vogelzang NG, Scardino PT, Shipley WU, Coffey DS (eds): GENITOURINARY ONCOLOGY, ed 2. Philadelphia, Lippincott Williams & Wilkins, 2000, chap 38A1, pp 638-650.

To perform an appendicovesicostomy, the blood supply to the appendix that must be preserved arises from a branch of which artery:

A ileal.

B anterior cecal.

C posterior cecal.

D ascending colic.

E inferior mesenteric.

To perform an appendicovesicostomy, the blood supply to the appendix that must be preserved arises from a branch of which artery:

A: "ileal." is correct.

The appendix is supplied by the appendiceal artery, usually a branch of the ileal artery, itself a branch of the superior mesenteric artery.

Hinman F Jr: ATLAS OF UROSURGICAL ANATOMY. Philadelphia, WB Saunders Co, 1993, p 84.

E. coli causing uncomplicated cystitis in women has recently demonstrated the greatest increase in resistance to which antibiotic:

A ampicillin.

B nitrofurantoin.

C cefazolin.

D trimethoprim-sulfamethoxazole.

E ciprofloxacin.

E. coli causing uncomplicated cystitis in women has recently demonstrated the greatest increase in resistance to which antibiotic:

D: "trimethoprim-sulfamethoxazole." is correct.

A number of studies have demonstrated both community acquired and hospital acquired uropathogen isolates, especially E. coli, resistance to trimethoprim/sulfa has risen in the past 5 to 7 years. While ampicillin has the highest absolute resistance rate, the greatest increase is trimethoprim/sulfa from 9% to 18% resistance in the past five years.

Gupta K, Scholes D, Stamm W: Increase in prevalence of antimicrobial resistance amongst uropathogens causing acute uncomplicated cystitis in women. JAMA 1999;281:736-738.

A 74-year-old man with metastatic carcinoma of the prostate has been receiving LH-RH treatment for two years. He is asymptomatic except for severe hot flashes. These are best managed by:

A diethylstilbestrol.

B megestrol acetate.

C stopping LH-RH and performing bilateral orchiectomy.

D flutamide.

E stopping LH-RH and following serum PSA.

A 74-year-old man with metastatic carcinoma of the prostate has been receiving LH-RH treatment for two years. He is asymptomatic except for severe hot flashes. These are best managed by:

B: "megestrol acetate." is correct.

The optimal treatment of hot flashes from hormonal therapy is megestrol acetate (Megace). Although anecdotal reports suggest that DES may be helpful, significant gynecomastia may occur, as well as thromboembolic complications. Although intermittent hormonal therapy has been reported to diminish this problem, its efficacy in terms of treating prostate cancer remains to be established. Orchiectomy and adding flutamide are not likely to change this man's symptoms.

Loprinzi CL, Michalak JC, Quella SK, et al: Megestrol acetate for the prevention of hot flashes. NEJM 1994;331:347.

The best artery to use as a pedicle for a gastrocystoplasty when avoiding use of the antrum is the:

A right gastroepiploic.

B left gastroepiploic.

C gastroduodenal.

D right gastric.

E left gastric.

The best artery to use as a pedicle for a gastrocystoplasty when avoiding use of the antrum is the:

A: "right gastroepiploic." is correct.

The antrum should probably be avoided when performing a gastrocystoplasty because bladder distention might lead to increased gastrin secretion and ulcer formation. To avoid the antrum, the pedicle should come from the right and the optimal vessel is the right gastroepiploic.

Rink RC, Adams: Augmentation cystoplasty, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, vol 3, chap 102, pp 3168-3189.

A 25-year-old woman has urinary frequency and dysuria. Urinalysis demonstrates pyuria and bacteriuria. The nitrite dipstick test is negative. The most likely causative organism is:

A. E. coli.

B. Proteus mirabilis.

C. Klebsiella pneumoniae.

D. enterococcus faecalis.

E. Pseudomonas aeruginosa.

A 25-year-old woman has urinary frequency and dysuria. Urinalysis demonstrates pyuria and bacteriuria. The nitrite dipstick test is negative. The most likely causative organism is:

D: "enterococcus faecalis." is correct.

The ability of bacteria to reduce nitrate to nitrite is variable. Members of the Enterobacteriaceae family such as E. coli and Proteus species are able to reduce nitrite while enterococci, streptococci and Candidal species do not have this property. Since enterococci have unique antibiotic susceptibility, the nitrite test can be used to guide initial therapy.

Holloway J, Joshi N, O'Bryan T: Positive urine nitrite test: An accurate predictor of absence of pure enterococcal bacteriuria. SOUTH MED J 2000;93:681-682.

A 33-year-old man with infertility has azoospermia. He has small testes bilaterally and a serum FSH of 15 mIU/ml (normal = 2-12 mIU/ml). Bilateral testis biopsies reveal rare spermatogonia and bilateral CIS. In addition to sperm retrieval, the next step is:

A serial ultrasound and tumor markers.

B repeat biopsy in six months.

C bilateral inguinal orchiectomy.

D radiation therapy to both testes.

E systemic chemotherapy.

A 33-year-old man with infertility has azoospermia. He has small testes bilaterally and a serum FSH of 15 mIU/ml (normal = 2-12 mIU/ml). Bilateral testis biopsies reveal rare spermatogonia and bilateral CIS. In addition to sperm retrieval, the next step is:

D: "radiation therapy to both testes." is correct.

Due to the high association of subsequent development of overt carcinoma, testicular CIS maybe treated by orchiectomy, radiation therapy or chemotherapy. Radiation therapy is effective and may maintain Leydig cell function. In cases of bilateral disease bilateral orchiectomy would be a drastic recommendation. Given the potential toxicities of chemotherapy compared to radiation, this approach would be reserved for contralateral CIS in the setting of metastasis from the primary tumor. Prior to treatment, testicular sperm extraction should be considered as some men with maturation arrest on diagnostic biopsy will have sperm found with a more extensive biopsy.

Giwercman A, Rajpert-De Meyts E, Skakkebaek NE: Carcinoma in situ of the testis: A new biological concept of urologic relevance and implications for detection and management, in Vogelzang NJ, Scardino PT, Shipley WU, Coffey DS (eds): COMPREHENSIVE TEXTBOOK OF GENITOURINARY ONCOLOGY, ed 1. Baltimore, Williams & Wilkins, 1996, chap 52, pp 941-952

The arterial blood supply to the renal medulla is from:

A afferent arterioles.

B efferent arterioles.

C interlobar arteries.

D arcuate arteries.

E interlobular arteries.

The arterial blood supply to the renal medulla is from:

B: "efferent arterioles." is correct.

The blood supply to the renal medulla is from the efferent arterioles of the juxtamedullary glomeruli. The vessels descend into the medulla by looping around the arcuate vessels, giving small branches to the capillary plexus of the medulla.

Redman JF: Anatomy of the genitourinary system, in Gillenwater JY, Grayhack JT, Howards SS, Duckett JW (eds): ADULT AND PEDIATRIC UROLOGY, ed 3. St Louis, Mosby Year Book, 1996, vol 1, chap 1, p 26.

The most effective treatment of balanitis xerotica obliterans affecting the prepuce, glans penis, and the meatus is:

A topical corticosteroids.

B 5-fluorouracil cream.

C circumcision.

D meatal dilation.

E meatoplasty.

The most effective treatment of balanitis xerotica obliterans affecting the prepuce, glans penis, and the meatus is:

C: "circumcision." is correct.

BXO is an inflammatory condition of the glans and prepuce of unknown cause. It frequently produces significant phimosis and may produce complete obliteration of a glans penis. The etiology remains controversial, as is the treatment. In a study of 287 patients, Depasquale, et.al demonstrated 92% of patients undergoing circumcision alone had symptom relief and arrest of the progress of the disease. 3.9% of patients had development of glans ulceration requiring glans resurfacing and 4% had meatal stenosis significant enough to require meatotomy or meatoplasty.

Depasquale I, Park AJ, Bracka A: The treatment of balanitis xerotica obliterans. BJU INTERNAT 2000;86:859-865.

A 24-year-old man is treated for a Stage III mixed germ cell tumor of the right testis by inguinal orchiectomy, four cycles of BEP chemotherapy, and postchemotherapy bilateral RPLND. He remains disease free with normal serum tumor markers for four years. Current physical examination and serum hCG are normal. Serum AFP is 27 ng/dl (normal < 10 ng/dl), and a CT scan of the chest, abdomen, and pelvis demonstrates a solitary 2 cm mass in the right retrocrural area. The next step is:

A observation.

B repeat AFP after I.M. testosterone.

C additional BEP chemotherapy.

D salvage chemotherapy.

E excision of the mass.

A 24-year-old man is treated for a Stage III mixed germ cell tumor of the right testis by inguinal orchiectomy, four cycles of BEP chemotherapy, and postchemotherapy bilateral RPLND. He remains disease free with normal serum tumor markers for four years. Current physical examination and serum hCG are normal. Serum AFP is 27 ng/dl (normal < 10 ng/dl), and a CT scan of the chest, abdomen, and pelvis demonstrates a solitary 2 cm mass in the right retrocrural area. The next step is:

E: "excision of the mass." is correct.

Late recurrences more than two years after chemotherapy for advanced stage testis cancer are rare, potentially lethal, and usually unresponsive to additional chemotherapy. They are therefore best managed surgically when an identifiable lesion is found. Most late recurrences are pathologically pure teratoma, which has a more favorable prognosis than if viable cancer is found. Observation is not appropriate in a patient with a new retroperitoneal mass and any marker elevation. IM testosterone will suppress cross-reactivity of the beta subunits of LH and hCG, but will have no effect on AFP.

Michael H, Lucia J, Foster RS, Ulbright TM: The pathology of late recurrence of testicular germ cell tumors. AM J SUR PATH 2000;24:257-273.

Retroperitoneal organs juxtaposed to the left kidney are:

A adrenal, spleen, pancreas.

B adrenal, pancreas, colon.

C spleen, jejunum, colon.

D adrenal, colon, spleen.

E spleen, duodenum, pancreas.

Retroperitoneal organs juxtaposed to the left kidney are:

B: "adrenal, pancreas, colon." is correct.

Retroperitoneal structures that are juxtaposed to the left kidney are the adrenal, pancreas, and colon. The spleen and jejunum are intraperitoneal organs.

Kabalin JN: Surgical anatomy of the retroperitoneum, kidneys, and ureters, in Walsh PC, Retik, AB, Vaughan ED Jr, Wein, AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, vol 1, chap 2, pp 61-68.

A 45-year-old woman has dysuria and a thin white vaginal discharge. Urinalysis is normal. Vaginal pH is 6.0. The application of potassium hydroxide to the discharge results in a fishy odor. Treatment is:

A fluconazole.

B doxycycline.

C acyclovir.

D metronidazole.

E ciprofloxacin.

A 45-year-old woman has dysuria and a thin white vaginal discharge. Urinalysis is normal. Vaginal pH is 6.0. The application of potassium hydroxide to the discharge results in a fishy odor. Treatment is:

D: "metronidazole." is correct.

This patient has bacterial vaginosis, a polymicrobial infection usually including Gardnerella vaginalis, Bacteroides species, Mycoplasma hominis, Mobiluncus species, and Pepto Streptococci. The diagnosis is confirmed if at least two of the following three are present: 1) vaginal pH > 5; 2) positive "whiff test" with KOH preparation; 3) presence of clue cells on a wet mount. Oral metronidazole is the preferred treatment.

Erickson DR, Davies MF: Office urogynecology. AUA UPDATE SERIES 1999, vol 18, lesson 11.

A 32-year-old man had a right radical orchiectomy for pure seminoma, Stage I. The left testis had been removed at age 14 following a torsion. Two weeks after orchiectomy, his previously normal beta -hCG is elevated. The alpha-fetoprotein, chest X-ray, and abdominal CT scan remain normal. The next step is:

A combination chemotherapy.

B retroperitoneal lymphadenectomy.

C radiotherapy and repeat serum markers in one month.

D radiotherapy, exogenous testosterone, and repeat markers.

E extended radiotherapy to mediastinum and supraclavicular nodes.

A 32-year-old man had a right radical orchiectomy for pure seminoma, Stage I. The left testis had been removed at age 14 following a torsion. Two weeks after orchiectomy, his previously normal beta-hCG is elevated. The alpha-fetoprotein, chest X-ray, and abdominal CT scan remain normal. The next step is:

D: "radiotherapy, exogenous testosterone, and repeat markers." is correct.

Removal of both testes will cause increased pituitary gonadotropin secretion, reflected by the elevated hCG. Giving intramuscular testosterone cypionate, 200 mg every two weeks, should suppress pituitary gonadotropin secretion and return the serum hCG to normal within two to three weeks. If hCG elevations persist, radiotherapy to periaortic nodes results in a 98% disease-free rate. If rising hCG is noted after radiotherapy, it would probably best be treated by combination chemotherapy.

Richie JP: Neoplasms of the testis, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, vol 3, chap 78, pp 2411-2452.

A newborn boy has a large, firm, left flank mass palpated on routine physical examination. An ultrasound shows a solid renal mass. The most likely diagnosis is:

A neuroblastoma.

B mesoblastic nephroma.

C hemorrhage into a hydronephrotic kidney.

D mesonephric hamartoma.

E Wilms' tumor.

A newborn boy has a large, firm, left flank mass palpated on routine physical examination. An ultrasound shows a solid renal mass. The most likely diagnosis is:

B: "mesoblastic nephroma." is correct.

Mesoblastic nephroma, an infiltrating solid renal tumor made up of spindle cells and grossly resembling a uterine fibroid, is the most common renal tumor of infancy. If completely excised, the patient is uniformly cured.

Ritchey ML, Andrassy RL, Kelalis PP: Pediatric urologic oncology, in Gillenwater JY, Grayhack JT, Howards SS, Duckett JW (eds): ADULT AND PEDIATRIC UROLOGY, ed 3. Chicago, Mosby Yearbook, 1996, vol 3, chap 58, pp 2682-2683.

A 60-year-old alcoholic man is in the emergency room with a blistering, severe cellulitis of the scrotum and penis. He denies trauma or pain, and there is no tenderness of the wound. He has a low-grade fever and an elevated WBC count. Management should include parenteral antibiotics and:

A urethral catheter drainage.

B incision and drainage.

C suprapubic cystostomy.

D scrotal exploration.

E operative debridement.

A 60-year-old alcoholic man is in the emergency room with a blistering, severe cellulitis of the scrotum and penis. He denies trauma or pain, and there is no tenderness of the wound. He has a low-grade fever and an elevated WBC count. Management should include parenteral antibiotics and:

E: "operative debridement." is correct.

This is a clinical picture of necrotizing fasciitis (Fournier's gangrene) that is commonly seen in alcoholics, diabetes, the morbidly obese and other chronically immunosuppressed individuals. The lesions are usually painless because deep nerve damage occurs with inflammation and necrosis. Treatment includes broad antimicrobial coverage for aerobic and anaerobic organisms with drainage and debridement.

Vick R, Carson CC Jr: Fournier's disease. UROL CLIN N AM 1999;26:841-849.

A 64-year-old man has painless right testicular swelling of three months duration. Urinalysis is normal, and testicular ultrasound reveals an enlarged right testis with multiple hypoechoic lesions. The most likely diagnosis is:

A lymphoma.

B chronic lymphocytic leukemia.

C spermatocytic seminoma.

D teratocarcinoma.

E embryonal cell carcinoma.

A 64-year-old man has painless right testicular swelling of three months duration. Urinalysis is normal, and testicular ultrasound reveals an enlarged right testis with multiple hypoechoic lesions. The most likely diagnosis is:

A: "lymphoma." is correct.

Lymphoma accounts for about 5% of all testicular tumors. It is the most common of all testis tumors over the age of 50. The median age of occurrence is approximately 60 years. Lymphoma is the most common secondary neoplasm of the testis. Microscopically, all varieties of reticuloendothelial neoplasms, including Hodgkin's disease, have been described in the testis. The vast majority, however, are diffuse; of these, most are histiocytic.

Richie JP: Neoplasms of the testis, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1997, vol 3, chap 78, pp 2443-2444.

A 14-year-old girl has gross hematuria. She is thin, chronically ill, and has an erythematous rash on her face and tongue. Radiologic studies show bilateral renal masses. Percutaneous needle biopsy shows both renal cell carcinoma and hamartoma. She most likely has:

A neurofibromatosis.

B Sturge-Weber syndrome.

C von Hippel-Lindau disease.

D tuberous sclerosis.

E sarcoidosis.

A 14-year-old girl has gross hematuria. She is thin, chronically ill, and has an erythematous rash on her face and tongue. Radiologic studies show bilateral renal masses. Percutaneous needle biopsy shows both renal cell carcinoma and hamartoma. She most likely has:

D: "tuberous sclerosis." is correct.

Neurocutaneous syndromes are hereditary disorders characterized by tumors in multiple organs. This history and exam are typical of tuberous sclerosis. Hamartomas occur in neurofibromatosis and tuberous sclerosis. Renal cell carcinoma occurs in von Hippel-Lindau disease and tuberous sclerosis. The occurrence of both tumors in the same patient is most typical of tuberous sclerosis.

Al-Saleem T, Wessner LL, Scheithauer BW: Malignant tumors of the kidney, brain, and soft tissues in children and young adults with the tuberous sclerosis complex. CANCER 1998;83:2208-2216.

A 32-year-old woman with recurrent calcium renal stones has a serum calcium of 9.9 mg/dl and bicarbonate of 15 mEq/l. Her serum parathyroid hormone is at the upper normal level. Her fasting urinary pH is 6.0, and the fasting calcium/creatinine ratio is elevated. A 24-hour urinary calcium on a random diet is 350 mg. The most likely diagnosis is:

A absorptive hypercalciuria.

B renal hypercalciuria.

C primary hyperparathyroidism.

D RTA Type I.

E RTA Type II.

A 32-year-old woman with recurrent calcium renal stones has a serum calcium of 9.9 mg/dl and bicarbonate of 15 mEq/l. Her serum parathyroid hormone is at the upper normal level. Her fasting urinary pH is 6.0, and the fasting calcium/creatinine ratio is elevated. A 24-hour urinary calcium on a random diet is 350 mg. The most likely diagnosis is:

D: "RTA Type I." is correct.

This woman has metabolic acidosis as evidenced by the decreased serum bicarbonate and an inappropriately high urine pH. In the presence of acidosis, patients with distal renal tubular acidosis (Type I) are unable to acidify urine below a pH of 5.5. Thus the diagnosis of complete distal renal tubular acidosis can be made in this patient by the presence of metabolic acidosis and an inappropriately basic urine. A patient with Type II (proximal) renal tubular acidosis will acidify urine below a pH of 5.5 in the presence of metabolic acidosis. The low serum bicarbonate and low-normal serum calcium are not characteristic of normocalcemic hyperparathyroidism. Absorptive or renal hypercalciuria, likewise, are not associated with systemic metabolic acidosis.

Menon M, Resnick M: Urinary lithiasis: Etiology, diagnosis, and medical management, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 8. Philadelphia, WB Saunders Co, 2002, chap 96, p 3229.

Pohlman T, Hruska K, Menon M: Renal tubular acidosis. J UROL 1984;132:431.

Jenkins AD: Calculus formation, in Gillenwater JY, Grayhack JT, Howards SS Duckett JW (eds): ADULT AND PEDIATRIC UROLOGY, ed 2. St. Louis, Mosby Year Book, 1991, pp 403-443.

A 27-year-old man has bulky retroperitoneal adenopathy following radical orchiectomy for a mixed germ cell tumor. His chest X-ray is normal. Serum beta-hCG and AFP are markedly elevated. Liver enzymes are slightly elevated and the patient relates a history of ethanol excess. He receives three cycles of BEP. Restaging reveals a 3 cm retroperitoneal mass, a normal chest X-ray, and normal serum beta-hCG. However the serum AFP is 20 IU/ml (normal=0-9). The next step is:

A retroperitoneal lymph node dissection.

B CT-guided needle biopsy.

C salvage chemotherapy.

D serial markers and CT scans.

E external beam radiotherapy.

A 27-year-old man has bulky retroperitoneal adenopathy following radical orchiectomy for a mixed germ cell tumor. His chest X-ray is normal. Serum beta-hCG and AFP are markedly elevated. Liver enzymes are slightly elevated and the patient relates a history of ethanol excess. He receives three cycles of BEP. Restaging reveals a 3 cm retroperitoneal mass, a normal chest X-ray, and normal serum beta-hCG. However the serum AFP is 20 IU/ml (normal=0-9). The next step is:

A: "retroperitoneal lymph node dissection." is correct.

This patient presents with a residual bulky mass after three courses of platinum based chemotherapy. While the chest X-ray and beta-hCG are normal, the serum AFP remains slightly elevated. AFP production is generally attributed to yolk sac elements in a mixed germ cell tumor. It is also seen with a number of other conditions such as hepatocellular carcinomas and benign hepatic disease, including alcohol hepatitis, as is probable in this case. While patients with persistent marker elevations after chemotherapy are generally considered very likely to harbor residual carcinoma and probably best managed by further chemotherapy, the AFP elevation seen in this case is more likely due to benign liver disease. Consequently, this patient would be best managed by retroperitoneal lymph node dissection. The most likely finding at retroperitoneal lymph node dissection would be either fibrosis or residual teratoma. CT scan directed percutaneous needle biopsy would have considerable sampling error and external beam radiotherapy has no efficacy, particularly in the management of teratoma. Further observation is generally not warranted in patients that have residual retroperitoneal masses in excess of 2-3 cm.

Richie JP: Neoplasms of the testis, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, vol 3, chap 78, pp 2411-2452.

A 12-year-old boy has intermittent right scrotal pain for two weeks after being kicked in the groin. Both physical examination of the scrotal contents and urinalysis during an episode of pain are normal. Doppler ultrasound of the testis demonstrates normal flow, and a 5 mm subtunical cystic lesion in the lower pole of the right testis without internal echoes or calcification. The next step is:

A radical orchiectomy.

B scrotal exploration and biopsy of the lower pole lesion.

C repeat physical examination and urinalysis in three months.

D repeat ultrasound in three months.

E bilateral orchiopexy.

The following questions have not been answered. Click continue to go to your first unanswered questions, then use the 'next unanswered' button to move through all your unanswered questions until this test is completed.

1 : Following the initial interval of spinal shock, a quadriplegic who has difficulty with bladder emptying will most likely benefit from an alpha-adrenergic blocking agent when which of the following conditions develops:
2 : The beneficial effect of thiazides in preventing recurrent calcium stones is most directly enhanced by restriction of dietary:
3 : The best predictor of immediate graft function following living donor renal transplantation is:
4 : Ileal conduit stomal bleeding, incrustation, and plaque formation are usually due to:
5 : Persistent hypercalcemia that develops as a consequence of long-standing thiazide treatment may be indicative of:
6 : A 72-year-old woman has a history of superficial transitional cell carcinoma of the bladder. An IVP shows a normal right kidney and collecting system, but a poorly functioning left kidney. Urine cytology is positive. Cystoscopy is normal. A left retrograde pyelogram is shown (see figure). Her serum creatinine is 1.5 mg/dl. The best management is:
7 : A 55-year-old man has a 16 Fr urethral catheter that cannot be removed because the balloon will not deflate. The best way to deflate it is to:
8 : Which of these stone compositions is most resistant to fragmentation with SWL therapy:
9 : A 62-year-old man with a long history of obstructive voiding symptoms has urine leakage from the perineum. A retrograde urethrogram demonstrates a 1.5 cm stricture of the bulbous urethra. The next step is:
10 : A 65-year-old man undergoes an abdominal-perineal resection for adenocarcinoma the rectum. Postoperatively, he has a poor urinary stream, incomplete emptying, and urinary retention. A CMG confirms detrusor areflexia. The cause for these symptoms is damage to the:
11 : The metabolic abnormalities most frequently encountered in patients with cystic fibrosis who develop nephrolithiasis are:
12 : A 35-year-old woman with T8 paraplegia underwent augmentation ileocystoplasty for urinary incontinence unresponsive to clean intermittent catheterization and anticholinergics. Post-operatively, she develops recurrent incontinence unresponsive to anticholinergics. Her urodynamic evaluation is demonstrated (see figure). The next step is:

13 : A 68-year-old man has fever, chills, and left flank pain. Two years previously, he underwent radical cystectomy and ileal conduit diversion for Stage T3b transitional cell bladder cancer. Abdominal CT scan reveals left hydronephrosis, a normal right kidney, and a retroperitoneal mass surrounding the left ureter. The next step is I.V. antibiotics and:
14 : A 56-year-old man with a solitary kidney and hypertension undergoes SWL for a 2 cm renal pelvic calculus. Immediately after the procedure, he has a blood pressure of 90/60 mm Hg, gross hematuria, and flank pain. A CT scan reveals a 10 x 12 cm perirenal hematoma. His blood pressure stabilizes with fluid resuscitation and two units of packed RBC's. The next step is:
15 : A 62-year-old man underwent an ileal conduit using a loop (Turnbull) stoma. He has abdominal discomfort and a recurrent large parastomal hernia after two failed repairs. The most appropriate treatment is:
16 : A 28-year-old man with an ileal conduit for 20 years is scheduled for a renal transplant. He had posterior urethral valves treated as an infant. A CMG shows a 75 cc capacity bladder with uninhibited contractions, and his maximum voiding pressure is 50 cm H2O. After five days of bladder cycling, his bladder capacity increases to 200 cc. The best management is:
17 : A 42-year-old woman with poorly controlled diabetes has a residual urine of 200 cc. She has had one episode of cystitis and currently has no voiding symptoms. The best way to prevent recurrent bacterial urinary tract infections is:
18 : A newborn boy has not voided for the first 18 hours of life. A renal ultrasound is obtained (see figure). The next step is:
19 : The neurological condition associated with urinary incontinence and an open bladder neck is:
20 : A 40-year-old woman has a large staghorn stone (surface area 3500 mm2) in her right kidney. The collecting system is grossly dilated with infundibular stenoses. Nuclear renography demonstrates that this kidney provides 30% of global renal function. Serum creatinine is 1.2 mg/dl. The best treatment is:
21 : The optimal high volume, low pressure continent urinary reservoir is created by:
22 : Treatment of neurogenic bladder dysfunction with prevention of upper urinary tract damage is best determined by:
23 : A 24-year-old man has recurrent cystine nephrolithiasis. Urine volume is more than three liters per day. He is taking alpha -mercaptoproprionylglycine (Thiola) and potassium citrate tablets three times per day with no side effects. He notes that his stools are filled with tablet-like material. The best recommendation is:
24 : A 29-year-old man with infertility is azoospermic. He underwent right orchiectomy three years earlier for trauma. A review of the

24 : A 29-year-old man with infertility is azoospermic. He underwent right orchiectomy three years earlier for trauma. A review of the pathology from that procedure shows normal spermatogenesis. A left vasogram is shown (see figure). The most likely diagnosis is:
25 : In central (pituitary) diabetes insipidus, the nephron segment that contains the most dilute fluid is the:
26 : A 24-year-old man sustains a rifle shot to the abdomen. Exploratory laparotomy reveals multiple small bowel perforations and a colonic injury. Exploration of a right retroperitoneal hematoma reveals partial transection of the mid-ureter. The ureter appears viable. The next step is:
27 : A 31-year-old woman had an ileal conduit urinary diversion at age ten years for a neurogenic bladder secondary to a lumbar myelomeningocele. She is now ten weeks pregnant. In addition to routine obstetrical care, she should have:
28 : The earliest clinically detectable pubertal change in a boy is:
29 : A 25-year-old male pedestrian is struck by an automobile. He has a left superior and inferior pubic ramus fracture as well as a fracture of the sacroiliac joint. He has a palpable bladder. No blood is noted at the meatus and the prostate is in normal position on digital examination. The next step is:
30 : A 55-year-old woman has flank pain, fever, and malaise. Her serum creatinine is 1.6 mg/dl. A CT scan of the abdomen is performed (see figure). The most appropriate treatment is:
31 : In a patient with Cushing syndrome due to adrenal adenoma, the changes in hormone secretion following a high dose dexamethasone suppression test are best represented by:<br><br><br><br><br><br><tab>ACTH<tab><tab>Urinary Free Cortisol
32 : A 23-year-old man suffers severe scrotal, penile, and buttock burns. Four days later, the scrotal skin appears necrotic and malodorous and the testes are visible. After administering antibiotics and performing local debridement, the next step is:
33 : During a TURP, the surgeon resects into the rectum. A 1 cm laceration is seen. The next step should be:
34 : The process of apoptosis involves:
35 : Inhibin is a substance derived from the testicle which mediates secretion of:
36 : The most important factor for successful vesicovaginal fistula repair using an omental interposition graft is:
37 : Renal blood flow is autoregulated primarily by:
38 : The increased risk for calculous disease during pregnancy is associated with:

39 : Three days after an abdominal hysterectomy for cervical cancer, a 64-year-old woman has leakage of urine and purulent material from the vagina. A cystogram is normal, but a retrograde pyelogram demonstrates a left ureterovaginal fistula and marked hydronephrosis. The right upper tract is normal. Management should be I.V. antibiotics and:
40 : The nerves of the bladder most affected by capsaicin are:
41 : Which of the following is the most sensitive biochemical test for confirming the diagnosis of pheochromocytoma:
42 : In a boy with a large ureterocele in a duplex system, the most compelling reason for combining a bladder reconstruction with partial nephrectomy is:
43 : A 65-year-old man with severe rheumatoid arthritis has been on chronic corticosteroid therapy. He undergoes a TURP, and is given I.V. hydrocortisone 50 mg every six hours that day. On the first postoperative day, his serum sodium is 124 mEq/l. The most likely cause of the hyponatremia is:
44 : Adrenal hemorrhage is most frequently associated with:
45 : A 14-year-old boy with incontinence had posterior urethral valves resected as a neonate. The most likely etiology for his incontinence is:
46 : A 65-year-old diabetic man with a serum creatinine of 2.3 mg/dl is about to undergo a CT scan using a non-ionic contrast agent. Prevention of contrast-induced nephropathy is best achieved by prophylactic hydration and administration of:
47 : For patients with a 1 cm proximal ureteral stone, placement of an internal stent at the time of SWL will result in:
48 : A 60-year-old woman complains of peristomal pain three days after undergoing a radical cystectomy and ileal conduit for bladder cancer. A 16 Fr. straight catheter is in the conduit; ureteral stents were not utilized. Her stoma was initially dusky, and is now black. The next step is:
49 : Calcium reabsorption induced by parathyroid hormone and Vitamin D occurs primarily in the:
50 : A 49-year-old man had a lesion of the glans penis, biopsy of which revealed squamous cell carcinoma in situ. Physical examination now shows a well-healed scar and no inguinal adenopathy. The next step is:
51 : A 12-year-old girl has recurrent UTIs. An ultrasound shows a large, thickened bladder wall and bilateral hydronephrosis. A VCUG shows no reflux and a large PVR. The next step is:

52 : Non-adrenergic, non-cholinergic contraction of detrusor smooth muscle is mediated primarily by:
53 : Placement of a ureteral stent in an unobstructed system will result in:
54 : During the first three years of life, hymenal morphology demonstrates progression of its:
55 : The co-administration of which of these drugs is most likely to prolong the half-life of sildenafil:
56 : The most frequent complication associated with an intestinal anastomosis using surgical staples is:
57 : A 15-year-old boy is undergoing revision of a colonic pull-through. During the operation, the left spermatic vessels are ligated and transected above the iliac vessels. The vas deferens is intact. Both testes are palpable in the scrotum. The next step is:
58 : A 38-year-old man with Klinefelter syndrome has breast enlargement and weight loss. The next step is:
59 : A ten-day-old infant boy is hospitalized for failure to thrive. After his umbilical stump fell off, fluid has intermittently drained from the umbilicus. The umbilical fluid has a creatinine of 10 mg/dl and grows > 100,000 cfu/ml of E. coli. The next step should be antibiotics and:
60 : Hypertension following renal parenchymal injury usually resolves within:
61 : A 65-year-old diabetic man develops erectile dysfunction following traumatic urethral disruption. The corporal artery blood velocities on duplex Doppler study are 8 cc/sec after a 20 microgram injection of prostaglandin E1. The most likely cause of the erectile dysfunction is:
62 : A 47-year-old calcium oxalate stone former wishes to go on a high animal protein, low carbohydrate, weight loss diet. The following changes in urinary chemistries are expected:<br><br><br><br><br><br><tab>Calcium<tab>Uric Acid<tab>Citrate<tab>  pH
63 : The urodynamic evaluation of a six-year-old child with diurnal wetting without infection will usually demonstrate:
64 : A two-month-old, uncircumcised boy has an E. coli UTI with a temperature of 104 degrees Fahrenheit. Physical exam is normal except for a phimotic prepuce. He responds well to antibiotics. The next step is:
65 : In-vitro fertilization and intracytoplasmic sperm injection is associated with which of the following birth defects:
66 : A 16-year-old girl with a neurogenic bladder remains incontinent despite an aggressive program of clean intermittent catheterization and anticholinergic medications. Videourodynamic evaluation demonstrates a flaccid, large capacity bladder and low urethral resistance. The best long-term management is continued intermittent catheterization and:
67 : A 32-year-old man with decreased libido and erectile dysfunction has a serum testosterone of 100 ng/dl (normal 300-1000 ng/dl)

67 : A 32-year-old man with decreased libido and erectile dysfunction has a serum testosterone of 100 ng/dl (normal 300-1000 ng/dl) and a prolactin of 150 ng/ml (normal 0-15 ng/ml). He has no visual field abnormalities, but an MRI scan demonstrates a 1 cm pituitary tumor. After three months of bromocriptine, his testosterone is 120 ng/dl, and he is still impotent despite normalization of his prolactin and a slight reduction in the size of the tumor. The most appropriate treatment is:
68 : Anosmia in an infertile man is usually associated with:
69 : A seven-year-old girl with myelomeningocele has bilateral hydronephrosis and urinary incontinence despite clean intermittent catheterization and oxybutynin 5 mg TID. CMG reveals a pressure of 35 cm H2O at a volume of 100 ml, and a detrusor leak point pressure of 54 cm H2O at a volume of 120 ml. The next step is:
70 : Which treatment of idiopathic priapism is most frequently associated with gangrene of the penis:
71 : A 40-year-old man underwent a vasectomy ten years earlier. He undergoes an end-to-end vasoepididymostomy, and sperm are noted in the epididymis. Six months after this procedure, semen analysis reveals azoospermia. The next step is:
72 : A six-year-old boy with a history of imperforate anus has persistent diurnal urinary incontinence. Evaluation includes an MRI scan showing the conus medullaris at the L-2 level. A CMG shows no postvoid residual, a flat filling curve with high volume detrusor instability, and normal voiding pressures. These findings suggest:
73 : A 14-year-old girl has primary amenorrhea. She is in the 25th percentile for height and has a webbed neck. Karyotype is 45 XO. The most likely genitourinary abnormality is:
74 : A 65-year-old man has lethargy, malaise, and markedly diminished urinary stream. After urethral catheterization, he experiences a postobstructive diuresis that is managed by appropriate fluid replacement. The urine output is 1,500 cc daily. The serum creatinine and BUN are 6.8 mg/dl and 95 mg/dl respectively, and are unchanged three days later. The next step is:
75 : During erection, blood volume and pressure in the corpora cavernosa increase due to:
76 : A 26-year-old-man with C6 level quadriplegia managed with condom catheter drainage undergoes a urodynamic study. During bladder filling, he suddenly develops a pounding headache, profuse facial flushing, and sweating. His systolic blood pressure is 240 mm Hg. The next step is:
77 : A 50-year-old woman undergoes radical nephrectomy. Pathology reveals collecting duct carcinoma with invasion of the perinephric

77 : A 50-year-old woman undergoes radical nephrectomy. Pathology reveals collecting duct carcinoma with invasion of the perinephric fat and microscopic involvement of one hilar node. Her metastatic evaluation is otherwise negative. The next step is:
78 : Classic features of prune-belly syndrome include dilated tortuous ureters, atretic anterior abdominal musculature, and undescended testes. In addition, there is usually hypoplasia of the:
79 : In a child with a febrile UTI, the antimicrobial drug that achieves therapeutic levels in the urine, but not in the tissue is:
80 : A 63-year-old man has left flank pain, gross hematuria, and a palpable left abdominal mass. He has lost 30 pounds in the last six months. CT scan reveals a 12 cm heterogenous left renal mass that involves the posterior abdominal wall and left mesocolon. Serum hematocrit is 27%. A bone scan reveals a sacral metastasis. The next step is:
81 : The diagnosis of testicular agenesis is confirmed by:
82 : Combined renal and liver transplantation is curative for which of the following:
83 : A 57-year-old woman has an incidentally discovered 3.0 cm lower pole mass in the right kidney. On CT scanning the mass is heterogeneous, appears to extend beyond the capsule of the kidney, and enhances after administration of I.V. contrast. Most of the mass measures +70 to +80 Hounsfield units but there is a small region within the tumor that measures -80 Hounsfield units. The left kidney appears normal. Appropriate management at this time is:
84 : A 24-hour-old neonate has a left scrotal mass which does not transilluminate. The most likely diagnosis is:
85 : A 20-year-old man has recurrent gross hematuria and left flank pain related to exercise. Urinalysis reveals microhematuria, rare RBC casts, and 2+ proteinuria. Renal ultrasound is normal. The study most likely to be diagnostic is:
86 : The parameter most predictive of a response to immunotherapy in patients with metastatic renal cell carcinoma is:
87 : As a part of normal renal function, most of the filtered solutes and water are returned to the systemic circulation by:
88 : The renal arterial disease associated with stable renal function to the affected kidney is:
89 : Deletions or mutations on chromosome 3 are most common in which histologic subtype of renal carcinoma:
90 : A 65-year-old man has chronic urinary retention associated with pedal edema. His BUN is 75 mg/dl. He is catheterized and a brisk diuresis of 500 ml/hr ensues. Forty-eight hours later the BUN is normal and the ankle edema is gone, but the diuresis persists. The probable cause of the persistent diuresis is:

90 : A 65-year-old man has chronic urinary retention associated with pedal edema. His BUN is 75 mg/dl. He is catheterized and a brisk diuresis of 500 ml/hr ensues. Forty-eight hours later the BUN is normal and the ankle edema is gone, but the diuresis persists. The probable cause of the persistent diuresis is:
91 : A 28-year-old woman has headaches and blurred vision. Physical exam reveals bipedal edema and an S3 gallop. Her blood pressure is 190/80 mm Hg. Urinalysis shows 10-20 RBC/hpf. Serum creatinine is 1.2 mg/dl. Abdominal exam reveals a right flank mass. The most likely diagnosis is:
92 : The histologic variant of renal carcinoma that has the worst one-year survival is:
93 : A 60-year-old man has a prolonged ileus for three weeks after radical nephrectomy complicated by wound infection. Hydration is maintained by intravenous fluids. Serum sodium, potassium, bicarbonate, chloride, and creatinine are normal. The patient develops neuromuscular irritability, tetany, and behavioral disturbances. The cause of these symptoms is most likely:
94 : A 58-year-old incontinent woman with urethral hypermobility undergoes a needle suspension with bone anchors. Four months later, she develops recurrent incontinence. The most likely cause is:
95 : A 45-year-old hypertensive man has an elevated 24 hour urinary aldosterone after a period of salt loading. CT scan of the adrenals is normal. The best study for localization of a surgically curable lesion is:
96 : On the eighth day of total parenteral nutrition, the solution is interrupted in order to administer two units of packed red cells through the central venous line to correct a slowly falling hematocrit. The patient suddenly develops hypotension, tachycardia, and hypothermia. The most likely cause for this clinical picture is:
97 : Three weeks after a Marshall-Marchetti-Krantz procedure, a 40-year-old woman develops pelvic and suprapubic pain associated with temperatures to 101 degrees Fahrenheit. She experiences difficulty adducting her thighs and has pain to palpation of her symphysis pubis. The most likely diagnosis is:
98 : A 55-year-old obese man with epigastric discomfort is noted to have a 5 cm right adrenal mass on CT scan. The mass measures -40 Hounsfield units. The next step is:
99 : A 12-year-old boy undergoes resection of a large retroperitoneal tumor. He requires transfusion of five units of banked blood and receives 1500 cc of Ringer's lactate solution. An intraoperative PT and PTT are both elevated. The coagulation factors most likely

99 : A 12-year-old boy undergoes resection of a large retroperitoneal tumor. He requires transfusion of five units of banked blood and receives 1500 cc of Ringer's lactate solution. An intraoperative PT and PTT are both elevated. The coagulation factors most likely deficient from his transfusion are:
100 : Six months following a TURP for BPH, a 65-year-old man complains of intermittent incontinence which occurs during the day and at night. His peak urinary flow rate is 24 ml/second, and he can voluntarily interrupt his urinary stream. The best diagnostic study is:
101 : The best predictor of long-term recurrence-free status in a patient with non-invasive bladder cancer is:
102 : A six-week-old boy was born at 27 weeks gestation. His postnatal course has been complicated by respiratory distress, bronchopulmonary dysplasia, and a patent ductus arteriosus. He has required long-term diuretic therapy. A KUB reveals calcifications in the mid and upper regions consistent with bilateral renal calculi. The most likely mechanism for the formation of the stones is:
103 : A 38-year-old woman develops incontinence ten days after an abdominal hysterectomy and anterior colporrhaphy for a large cystocele. She complains of leakage that is constant, but increases with an increase in abdominal pressure. The most likely diagnosis is:
104 : A 60-year-old man has a Grade III, T1 transitional cell carcinoma of the bladder. He receives the fifth of six weekly instillations of intravesical BCG. Twelve hours later he has a temperature of 39.5 degrees Celsius, difficulty breathing, and hypotension. The most likely cause of this complication is:
105 : A five-year-old girl receives 100 mg Pyridium (phenazopyridine) for irritative bladder symptoms one day after bilateral ureteral reimplantation. An epidural catheter is in place infusing meperidine. She becomes dyspneic and cyanotic, and pulse oximetry shows an oxygen saturation of 75%. Treatment should be:
106 : A 62-year-old woman complains of urge incontinence and difficulty initiating volitional urination 12 months after a needle suspension for stress incontinence. Her residual urine is 120 ml, and mid-voiding pressure is 52 cm/H2O during an uninhibited contraction. The best management is:
107 : A 72-year-old man on chronic hemodialysis has gross hematuria. A 3 cm muscle-invasive transitional cell carcinoma is resected just lateral to the right ureteral orifice. Random biopsies of the bladder and prostatic urethra are negative. A CT scan shows no evidence of metastatic disease. He produces 100 cc of urine per day. The most appropriate management is:

108 : Berry aneurysms of the circle of Willis are most frequently associated with:
109 : A 65-year-old man has dribbling incontinence six weeks after an uncomplicated abdominoperineal resection for rectal carcinoma. One year prior to surgery, he had an AUA Symptom Score of 17 and a palpably enlarged, but benign prostate. A CMG shows a PVR of 200 cc and no detrusor contraction. The best treatment is:
110 : A 67-year-old man has adenocarcinoma of the bladder located on the lateral wall, 3 cm cephalad to the left ureteral orifice. Abdominal and pelvic CT scan and chest radiograph show no evidence of metastatic disease. The next step is:
111 : A 42-year-old man is undergoing laparotomy for intraabdominal injuries and bladder rupture. Bleeding is noted in the perivesical area. After repair of bladder rupture, pelvic pressure does not stop the persistent oozing. Multiple blood transfusions are given and his core temperature is 35.5 degrees Celsius. The next step is:
112 : A 38-year-old, T-10 paraplegic man undergoes a cystoscopy and transurethral sphincterotomy. In the recovery room he is apprehensive, diaphoretic, and agitated. Vital signs reveal a blood pressure of 92/55 mm/Hg, pulse 120, respiration 24, and temperature 99.8 degrees Fahrenheit. The most likely diagnosis is:
113 : A 63-year-old man is disease-free two years after BCG therapy for CIS and a Grade 2, Stage T1 bladder cancer. In addition to physical examination, cystoscopy, and urinary cytology, evaluation at this time should include:
114 : A 62-year-old man with erectile dysfunction following a nerve-sparing radical prostatectomy reports a lack of response 20 minutes after taking a 100 mg dose of sildenafil. The next step is:
115 : The risk of hemorrhagic cystitis associated with cyclophosphamide may be reduced by concomitant treatment with:
116 : A 68-year-old man with intermittent gross hematuria has a large papillary tumor found within a bladder diverticulum. An IVP shows normal upper tracts and urine cytology is positive. Cold cup biopsy of the lesion reveals a Grade 2 TCC. Random biopsies of normal appearing bladder are negative. Further management should entail:
117 : During a cadaver donor nephrectomy, a normal main renal artery and a small accessory renal artery 2 mm in diameter supplying the lower pole of the left kidney are found. The best management is to:
118 : Estrogen is effective in controlling lower urinary tract infections in post-menopausal women by:
119 : After hemodialysis, serum PSA levels are:<br><br><br><br><br><br><br><tab>Total<tab>Free:Total Ratio

120 : A five-year-old boy with bladder exstrophy underwent neonatal closure with bilateral posterior iliac osteotomies. He remains totally incontinent despite repair of his epispadias at two years of age. Studies reveal a bladder capacity of 50 cc with mild hypertonicity. The next step is:
121 : The disease that is caused by an organism similar to Klebsiella pneumoniae and is identified by the presence of Donovan bodies is:
122 : In a patient with metastatic prostate cancer, a false-negative bone scan is suggested by:
123 : Spontaneous bladder perforation after enterocystoplasty is most likely the result of:
124 : A 70-year-old man with metastatic colon cancer and indwelling ureteral stents develops high volume gross hematuria. Arteriography demonstrates a fistula between the right common iliac artery and ureter. The next step is:
125 : The major risk associated with harvesting the sural nerve for grafting after resection of a neurovascular bundle during radical prostatectomy is:
126 : In pediatric patients with ventriculoperitoneal shunt infection following augmentation cystoplasty, the usual time to presentation, and the most frequent type of bacterial infection, is:
127 : The major disadvantage of 5-flucytosine for treatment of Candida albicans pyelonephritis is:
128 : An 80-year-old man has newly diagnosed prostate cancer metastatic to his vertebrae, ribs, and bony pelvis. He has severe back pain and leg weakness. He is on coumadin for atrial fibrillation. Initial treatment should be:
129 : The nerve supply of the adrenal gland is:
130 : A 32-year-old woman has had right flank pain and spiking fevers to 102 degrees Fahrenheit for three days. Her urine culture is positive. A CT scan without contrast is normal, but with contrast, a localized area of hypoattenuation is seen in the lower pole of the right kidney. The most appropriate management is I.V. antibiotics and:
131 : A 49-year-old man with poor libido and erectile dysfunction has a testosterone level of 122 ng/dl (normal 200-800 ng/dl). He has mild bilateral testicular atrophy, and his prostate is approximately 15 gm size, without induration or nodules. His serum PSA is 2.4 ng/ml. The next step is:
132 : To perform an appendicovesicostomy, the blood supply to the appendix that must be preserved arises from a branch of which

132 : To perform an appendicovesicostomy, the blood supply to the appendix that must be preserved arises from a branch of which artery:
133 : E. coli causing uncomplicated cystitis in women has recently demonstrated the greatest increase in resistance to which antibiotic:
134 : A 74-year-old man with metastatic carcinoma of the prostate has been receiving LH-RH treatment for two years. He is asymptomatic except for severe hot flashes. These are best managed by:
135 : The best artery to use as a pedicle for a gastrocystoplasty when avoiding use of the antrum is the:
136 : A 25-year-old woman has urinary frequency and dysuria. Urinalysis demonstrates pyuria and bacteriuria. The nitrite dipstick test is negative. The most likely causative organism is:
137 : A 33-year-old man with infertility has azoospermia. He has small testes bilaterally and a serum FSH of 15 mIU/ml (normal = 2-12 mIU/ml). Bilateral testis biopsies reveal rare spermatogonia and bilateral CIS. In addition to sperm retrieval, the next step is:
138 : The arterial blood supply to the renal medulla is from:
139 : The most effective treatment of balanitis xerotica obliterans affecting the prepuce, glans penis, and the meatus is:
140 : A 24-year-old man is treated for a Stage III mixed germ cell tumor of the right testis by inguinal orchiectomy, four cycles of BEP chemotherapy, and postchemotherapy bilateral RPLND. He remains disease free with normal serum tumor markers for four years. Current physical examination and serum hCG are normal. Serum AFP is 27 ng/dl (normal < 10 ng/dl), and a CT scan of the chest, abdomen, and pelvis demonstrates a solitary 2 cm mass in the right retrocrural area. The next step is:
141 : Retroperitoneal organs juxtaposed to the left kidney are:
142 : A 45-year-old woman has dysuria and a thin white vaginal discharge. Urinalysis is normal. Vaginal pH is 6.0. The application of potassium hydroxide to the discharge results in a fishy odor. Treatment is:
143 : A 32-year-old man had a right radical orchiectomy for pure seminoma, Stage I. The left testis had been removed at age 14 following a torsion. Two weeks after orchiectomy, his previously normal beta-hCG is elevated. The alpha-fetoprotein, chest X-ray, and abdominal CT scan remain normal. The next step is:
144 : A newborn boy has a large, firm, left flank mass palpated on routine physical examination. An ultrasound shows a solid renal mass. The most likely diagnosis is:

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144 : A newborn boy has a large, firm, left flank mass palpated on routine physical examination. An ultrasound shows a solid renal mass. The most likely diagnosis is:
145 : A 60-year-old alcoholic man is in the emergency room with a blistering, severe cellulitis of the scrotum and penis. He denies trauma or pain, and there is no tenderness of the wound. He has a low-grade fever and an elevated WBC count. Management should include parenteral antibiotics and:
146 : A 64-year-old man has painless right testicular swelling of three months duration. Urinalysis is normal, and testicular ultrasound reveals an enlarged right testis with multiple hypoechoic lesions. The most likely diagnosis is:
147 : A 14-year-old girl has gross hematuria. She is thin, chronically ill, and has an erythematous rash on her face and tongue. Radiologic studies show bilateral renal masses. Percutaneous needle biopsy shows both renal cell carcinoma and hamartoma. She most likely has:
148 : A 32-year-old woman with recurrent calcium renal stones has a serum calcium of 9.9 mg/dl and bicarbonate of 15 mEq/l. Her serum parathyroid hormone is at the upper normal level. Her fasting urinary pH is 6.0, and the fasting calcium/creatinine ratio is elevated. A 24-hour urinary calcium on a random diet is 350 mg. The most likely diagnosis is:
149 : A 27-year-old man has bulky retroperitoneal adenopathy following radical orchiectomy for a mixed germ cell tumor. His chest X-ray is normal. Serum beta-hCG and AFP are markedly elevated. Liver enzymes are slightly elevated and the patient relates a history of ethanol excess. He receives three cycles of BEP. Restaging reveals a 3 cm retroperitoneal mass, a normal chest X-ray, and normal serum beta-hCG. However the serum AFP is 20 IU/ml (normal=0-9). The next step is:

A 12-year-old boy has intermittent right scrotal pain for two weeks after being kicked in the groin. Both physical examination of the scrotal contents and urinalysis during an episode of pain are normal. Doppler ultrasound of the testis demonstrates normal flow, and a 5 mm subtunical cystic lesion in the lower pole of the right testis without internal echoes or calcification. The next step is:

D: "repeat ultrasound in three months." is correct.

The questions for this peripubertal boy with intermittent testicular pain are whether he has intermittent torsion and whether the lesion in the testis requires excision. With a normal physical examination; i.e., no horizontal lie to the testis, it is difficult to diagnose intermittent torsion especially since the problem has been evident for only two weeks. The lesion in the right testis is clearly a cyst by ultrasound and treatment for this would be observation with follow-up ultrasound in three months. True simple cysts of the testis are usually non-palpable, usually subtunical near the mediastinum of the testis, and rarely change on follow-up ultrasound. Complex cysts or cysts with calcification tend to be more associated with malignancy and require more aggressive management.

Garrett JE, Cartwright PC, Snow BW, Coffin CM: Cystic testicular lesions in the pediatric population. J UROL 2000;163:928-936.

A seven-year-old girl with myelomeningocele has bilateral hydronephrosis and urinary incontinence despite clean intermittent catheterization and oxybutynin 5 mg TID. CMG reveals a pressure of 35 cm H2O at a volume of 100 ml, and a detrusor leak point pressure of 54 cm H2O at a volume of 120 ml. The next step is:

E: "enterocystoplasty." is correct.

This patient has an extremely small capacity bladder with poor compliance. The patient is on maximal anticholinergic therapy. At this point urethral dilation or vesicostomy would not be the best choice. This is an older child and one should seek an alternative that would correct the dangerously high pressures, but also provide social continence. Enterocystoplasty would be the best option for this patient. Given that this patient has bilateral hydronephrosis, urgent attention is needed. Bladder augmentation will provide a low pressure reservoir with resolution of the hydronephrosis.

McGuire EJ, Bloom DA, Ritchey ML: Myelodysplasia, in: Blaivas J, Chancellor M (eds): PROB IN UROL 1993;7(1):1-14.

A 26-year-old-man with C6 level quadriplegia managed with condom catheter drainage undergoes a urodynamic study. During bladder filling, he suddenly develops a pounding headache, profuse facial flushing, and sweating. His systolic blood pressure is 240 mm Hg. The next step is:

A oral nifedipine.

B drain the bladder.

C intravenous chlorpromazine.

D oral terazosin.

E reduce rate of infusion.

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B: "drain the bladder." is correct.

Autonomic hyperreflexia (dysreflexia) occurs in patients with spinal cord injury above the T6-T8 level due to a massive unopposed sympathetic response to nociceptive stimulation of afferent impulses, commonly arising from the bladder or rectum. Although the acute effects of this syndrome can be prevented with ganglionic or alpha-adrenergic blockade, the most effective treatment once symptoms begin is removal of the offending stimulus, in this case, emptying the bladder.

Wein AJ: Neuromuscular dysfunction of the lower urinary tract and its treatment, in Walsh PC, Retik, AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, pp 953-1006.

A 60-year-old man has a prolonged ileus for three weeks after radical nephrectomy complicated by wound infection. Hydration is maintained by intravenous fluids. Serum sodium, potassium, bicarbonate, chloride, and creatinine are normal. The patient develops neuromuscular irritability, tetany, and behavioral disturbances. The cause of these symptoms is most likely:

A hypoglycemia.

B hypomagnesemia.

C hypoproteinemia.

D hypocalcemia.

E hypercalcemia.